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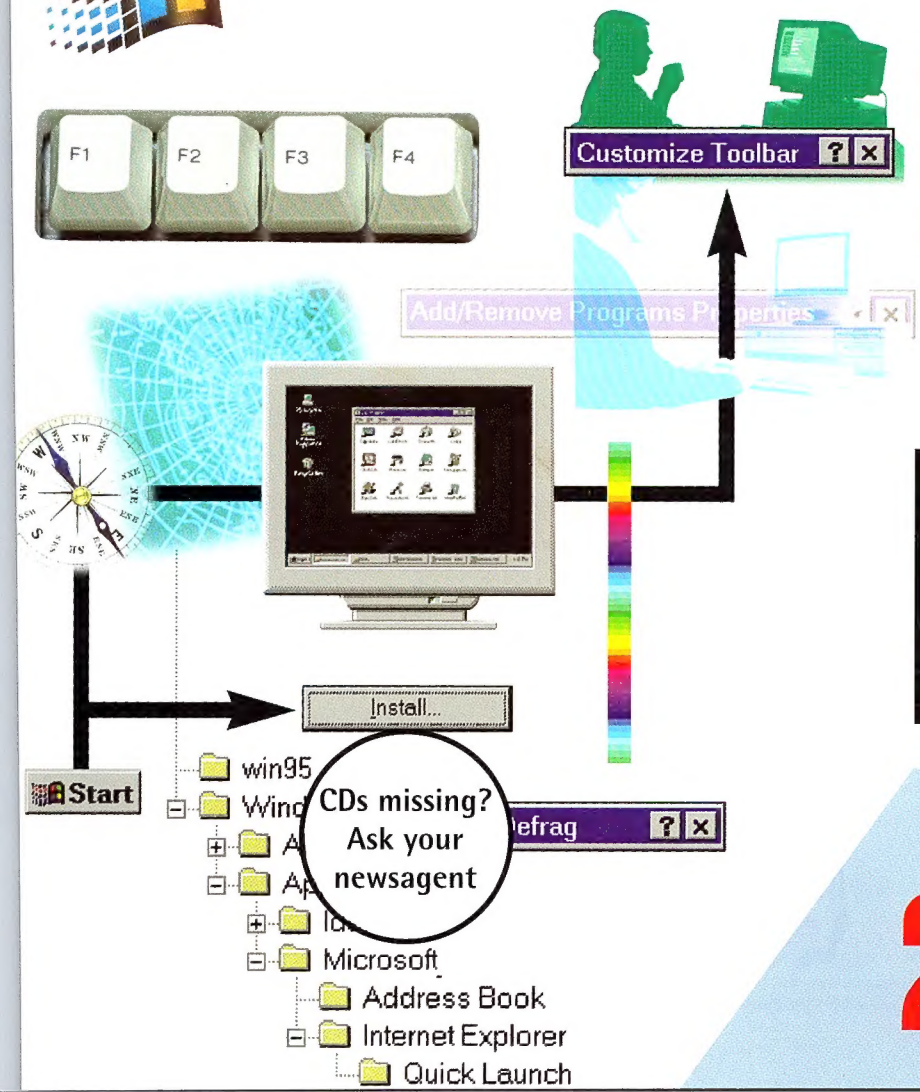

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- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

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- 512KB Single Bank Pipeline Burst Cache
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- 13.6GB Ultra ATA Hard Drive (7,200rpm)
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- 16MB Diamond Viper TNT AGP Graphics Card
- Yamaha 64 Voice Wavetable Integrated Sound
- 40X Variable EIDE CD-ROM Drive
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- Altec Lansing ACS-340 Speakers with Subwoofer
- 17" Colour Monitor (15.9" v.i.s.)
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- 3Com® 3C905B TXM 10/100 WuOL NIC
- 16MB Diamond Viper TNT AGP Graphics Card
- Yamaha 64 Voice Wavetable Integrated Sound
- 40X Variable EIDE CD-ROM Drive
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- 17" Colour Monitor (15.9" v.i.s.)
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- 3Com® 3C905B TXM 10/100 WuOL NIC
- 16MB Diamond Viper TNT AGP Graphics Card
- Yamaha 64 Voice Wavetable Integrated Sound
- 40X Variable EIDE CD-ROM Drive
- 15" Colour Monitor (13.7" v.i.s.)
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- 6.4GB Ultra ATA Hard Drive
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- 14.1" XGA Colour TFT Display
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- 1 Year Limited Warranty
- Free Lifetime Telephone Technical Support

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INTEL® PENTIUM® II PROCESSOR 366MHz
- Integrated 256KB L2 Cache
- 64MB SDRAM
- 6.4GB Ultra ATA Hard Drive
- Microsoft® OEM Office 97 Small Business Edition

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DELL® INSPIRON® 3500 A333GT
INTEL® PENTIUM® II PROCESSOR 333MHz
- Integrated 256KB L2 Cache
- 64MB SDRAM
- 6.4GB Ultra ATA Hard Drive
- Microsoft® OEM Works Suite 99
- 56K Data/Fax Modem (V.90 Compliant)

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- Iomega Zip 100MB Internal Drive $238
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NEW INTEL® CELERON™ PROCESSOR 366MHz
- Integrated 128KB L2 Cache
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- Microsoft® OEM Office 97 Small Business Edition

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- 6.4GB Ultra ATA Hard Drive $191
- 4X Variable DVD-ROM Drive and MARGI Decoder Card $477
- 56K Data/Fax Modem (V.90 Compliant) $229
- Second Battery $191

DELL® INSPIRON® 3500 C333GT
INTEL® CELERON™ PROCESSOR 333MHz
- Integrated 128KB L2 Cache
- 32MB SDRAM
- 4.3GB Ultra ATA Hard Drive
- Microsoft® OEM Works Suite 99

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COMMON FEATURES

- Mini Tower Chassis
- 3.5" 1.44MB Diskette Drive
- McAfee Virus Scan
- Microsoft® Windows® 98
- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

DELL DIMENSION® XPS T450
INTEL® PENTIUM® III PROCESSOR 450MHz

- 512KB Single Bank Pipeline Burst Cache
- 128MB 100MHz SDRAM
- 13.6GB Ultra ATA Hard Drive (7,200rpm)
- 32MB Diamond Viper V770D AGP Graphics Card
- SoundBlaster Live! Value 576 Voice Sound Card
- 6X Variable DVD-ROM Drive and Software Decoding
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- Logitech 4-button MouseMan® Wheel (PS/2v)
- Microsoft® Windows® 98
- Microsoft® OEM Office 97 Small Business Edition
- Power Game Pack Optimised for Intel® Pentium® III Processor
- 3Com® USR 56K Capable V.90 PCI WinModem
- Microsoft® Elite Keyboard

$3,899* plus delivery

or $33 per week**

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DELL DIMENSION® V433c
INTEL® CELERON™ PROCESSOR 433MHz

- **Intel® 440BX AGPset**
- 128KB Single Bank Pipeline Burst Cache
- 64MB 100MHz SDRAM
- 6.4GB Ultra ATA Hard Drive
- ATI® 8MB 3D 2X AGP Integrated Graphics
- Yamaha 64 Voice Wavetable Integrated Sound
- 6X Variable DVD-ROM Drive and Software Decoding
- Altec Lansing ACS-340 Speakers with Subwoofer
- 17" Colour Monitor (15.9" v.i.s.)
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- Microsoft® OEM Works Suite 99
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- 9.1GB Ultra ATA Hard Drive (7,200rpm) $95
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- Microsoft® Elite KeyBoard $38

DELL DIMENSION® V433c
INTEL® CELERON™ PROCESSOR 433MHz

- **Intel® 440BX AGPset**
- 128KB Single Bank Pipeline Burst Cache
- 64MB 100MHz SDRAM
- 6.4GB Ultra ATA Hard Drive
- ATI® 8MB 3D 2X AGP Integrated Graphics
- Yamaha 64 Voice Wavetable Integrated Sound
- 40X Variable EIDE CD-ROM Drive
- Harman Kardon HK195 Speakers
- 15" Colour Monitor (13.7" v.i.s.)
- Microsoft® IntelliMouse™
- Microsoft® OEM Works Suite 99
- 3Com® USR 56K Capable V.90 PCI WinModem

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- Iomega Zip 100MB Internal Drive $143

DELL DIMENSION® V400c
INTEL® CELERON™ PROCESSOR 400MHz

- **Intel® 440BX AGPset**
- 128KB Single Bank Pipeline Burst Cache
- 32MB 100MHz SDRAM
- 4.3GB Ultra ATA Hard Drive
- ATI® 8MB 3D 2X AGP Integrated Graphics
- Yamaha 64 Voice Wavetable Integrated Sound
- 40X Variable EIDE CD-ROM Drive
- Harman Kardon HK195 Speakers
- 15" Colour Monitor (13.7" v.i.s.)
- Microsoft® IntelliMouse™
- Microsoft® OEM Works Suite 99
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- 3.5" 1.44MB Diskette Drive
- 8MB ATI® RAGE LT PRO 2X AGP Video Controller
- High-fidelity Audio SoundBlaster Compatible
- 24X Variable CD-ROM Drive
- Microsoft® Windows® 98
- 1 Year Limited Warranty
- Free Lifetime Telephone Technical Support

DELL® INSPIRON® 7000 A333LT
INTEL® PENTIUM® II PROCESSOR 333MHz

- Integrated 256KB L2 Cache
- 6.4GB Ultra ATA Hard Drive
- 15" XGA Colour TFT Display
- Microsoft® OEM Works Suite 99

$4,799* plus delivery

or $40 per week**

Upgrade to:
- 128MB SDRAM $191
- 10GB Ultra ATA Hard Drive $381
- Microsoft® Windows® NT 4.0 $191
- 56K Data/Fax Modem (V.90 Compliant) $229
- Microsoft® OEM Office 97 Small Business Edition $272

NEW DELL® INSPIRON® 7000 C366LT
NEW INTEL® CELERON™ PROCESSOR 366MHz

- Integrated 128KB L2 Cache
- 6.4GB Ultra ATA Hard Drive
- 15" XGA Colour TFT Display
- Microsoft® OEM Works Suite 99
- 56K Data/Fax Modem (V.90 Compliant)

$4,499* plus delivery

or $38 per week**

Upgrade to:
- 128MB SDRAM $191
- 10GB Ultra ATA Hard Drive $381
- 4X Variable DVD-ROM Drive and Internal Decoder Card $324
- Iomega Zip 100MB Internal Drive $238
- Microsoft® OEM Office 97 Small Business Edition $272

DELL® INSPIRON® 7000 A366GT
INTEL® PENTIUM® II PROCESSOR 366MHz

- Integrated 256KB L2 Cache
- 6.4GB Ultra ATA Hard Drive
- 14.1" XGA Colour TFT Display
- Microsoft® OEM Works Suite 99
- 56K Data/Fax Modem (V.90 Compliant)

$4,999* plus delivery

or $42 per week**

Upgrade to:
- 128MB SDRAM $191
- 10GB Ultra ATA Hard Drive $381
- 4X Variable DVD-ROM Drive and Internal Decoder Card $324
- Iomega Zip 100MB Internal Drive $238
- Port Replicator $305

DELL® INSPIRON® 7000 A333GT
INTEL® PENTIUM® II PROCESSOR 333MHz

- Integrated 256KB L2 Cache
- 4.3GB Ultra ATA Hard Drive
- 14.1" XGA Colour TFT Display
- Microsoft® OEM Works Suite 99

$4,499* plus deliver

or $38 per week**

Upgrade to:
- 128MB SDRAM $191
- 6.4GB Ultra ATA Hard Drive $191
- Microsoft® Windows® NT 4.0 $191
- 56K Data/Fax Modem (V.90 Compliant) $229
- Microsoft® OEM Office 97 Small Business Edition $272

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- 512KB Internal Cache
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- 3.5" 1.44MB Diskette Drive
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- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

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DELL® POWEREDGE® 2300 SERVER
INTEL® PENTIUM® III PROCESSOR 450MHz (DUAL PROCESSOR CAPABLE)

- Rack-mount Capable Mini Tower (Midnight Grey)
- 512KB Internal Cache
- 64MB 100MHz SDRAM with ECC (Upgradeable to 2GB)
- Integrated Ultra2/LVD and Ultra/Narrow SCSI Controllers
- 32X Variable SCSI CD-ROM Drive
- 15" Colour Monitor (13.7" v.i.s.)

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- 64MB – 128MB 100MHz SDRAM with ECC $191
- Additional 4.5GB LVD SCSI Hard Drive $763

ADVANCE WORKGROUP SERVER

DELL® POWEREDGE® 2300 SERVER
INTEL® PENTIUM® II PROCESSOR 400MHz (DUAL PROCESSOR CAPABLE)

- Rack-mount Capable Mini Tower (Midnight Grey)
- 512KB Internal Cache
- 128MB 100MHz SDRAM with ECC (Upgradeable to 1GB)
- Integrated Ultra2/LVD and Ultra/Narrow SCSI Controllers
- 32X Variable SCSI CD-ROM Drive
- 15" Colour Monitor (13.7" v.i.s.)

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or $44 per week**

Upgrade to:
- Additional 2nd Intel® Pentium® II Processor 400MHz $1,526
- Additional 4.5GB LVD SCSI Hard Drive $763

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DELL® POWEREDGE® 1300 SERVER
INTEL® PENTIUM® II PROCESSOR 400MHz (DUAL PROCESSOR CAPABLE)

- Mini Tower (Midnight Grey)
- 512KB Internal Cache
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- Integrated Ultra2/LVD SCSI Controller
- 32X Variable EIDE CD-ROM Drive

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Upgrade options:
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- 15" Colour Monitor (13.7" v.i.s.) $381

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- Integrated Sound Blaster Pro Compatible
- 32X Variable EIDE CD-ROM Drive
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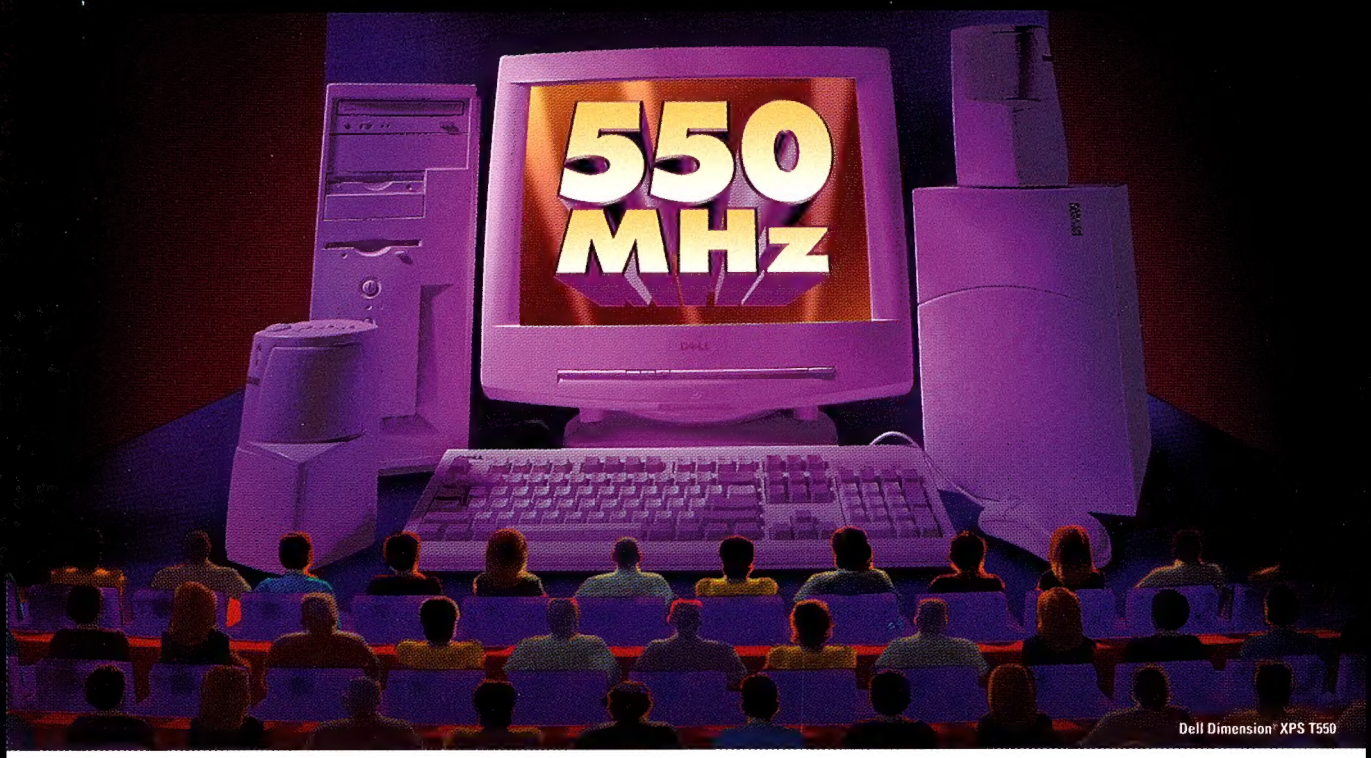

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NEW DELL DIMENSION® XPS T550
NEW INTEL® PENTIUM® III PROCESSOR 550MHz

- Mini Tower Chassis
- 512KB Single Bank Pipeline Burst Cache
- 64MB 100MHz SDRAM
- 9.1GB Ultra ATA Hard Drive (7,200rpm)
- 3.5" 1.44MB Diskette Drive
- 16MB Diamond Viper TNT AGP Graphics Card
- Turtle Beach Montego II 320 Voice PCI Sound Card
- 40X Variable EIDE CD-ROM Drive
- Harman Kardon HK195 Speakers
- 17" Colour Monitor (15.9" v.i.s.)
- Microsoft® IntelliMouse™
- Microsoft® Windows® 98
- Microsoft® OEM Works Suite 99
- Power Game Pack Optimised for Intel® Pentium® III Processor
- McAfee Virus Scan
- 3Com® USR 56K Capable V.90 PCI WinModem
- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

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- 19" Trinitron® Monitor (19.8" v.i.s.) $353

DELL DIMENSION® XPS T500
INTEL® PENTIUM® III PROCESSOR 500MHz

- Mini Tower Chassis
- 512KB Single Bank Pipeline Burst Cache
- 64MB 100MHz SDRAM
- 9.1GB Ultra ATA Hard Drive (7,200rpm)
- 3.5" 1.44MB Diskette Drive
- 16MB Diamond Viper TNT AGP Graphics Card
- Turtle Beach Montego II 320 Voice PCI Sound Card
- 40X Variable EIDE CD-ROM Drive
- Harman Kardon HK195 Speakers
- 17" Colour Monitor (15.9" v.i.s.)
- Microsoft® IntelliMouse™
- Microsoft® Windows® 98
- Microsoft® OEM Works Suite 99
- Power Game Pack Optimised for Intel® Pentium® III Processor
- McAfee Virus Scan
- 3Com® USR 56K Capable V.90 PCI WinModem
- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

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or $28 per week**

Upgrade to:
- 128MB 100MHz SDRAM $191
- 13.6GB Ultra ATA Hard Drive (7,200rpm) $191
- 6X Variable DVD-ROM Drive and Decoder Card with TV Out $267
- Altec Lansing ACS-340 Speakers with Subwoofer $366
- 19" Trinitron® Monitor (19.8" v.i.s.) $353

DELL DIMENSION® V400
INTEL® PENTIUM® II PROCESSOR 400MHz

- Mini Tower Chassis
- 512KB Single Bank Pipeline Burst Cache
- 64MB 100MHz SDRAM
- 6.4GB Ultra ATA Hard Drive
- 3.5" 1.44MB Diskette Drive
- ATI® 8MB 3D 2X AGP Integrated Graphics
- Yamaha 64 Voice Wavetable Integrated Sound
- 6X Variable DVD-ROM Drive and Software Decoding
- Harman Kardon HK195 Speakers
- 17" Colour Monitor (15.9" v.i.s.)
- Microsoft® IntelliMouse™
- Microsoft® Windows® 98
- Microsoft® OEM Works Suite 99
- McAfee Virus Scan
- 3Com® USR 56K Capable V.90 PCI WinModem
- 3 Year Limited Warranty
- Free Lifetime Telephone Technical Support

$2,699* plus delivery

or $23 per week**

Upgrade to:
- 128MB 100MHz SDRAM $191
- 9.1GB Ultra ATA Hard Drive (7,200rpm) $95
- 19" Colour Monitor (17.9" v.i.s.) $353
- Altec Lansing ACS-340 Speakers with Subwoofer $90
- Iomega Zip 250MB Internal Drive $286

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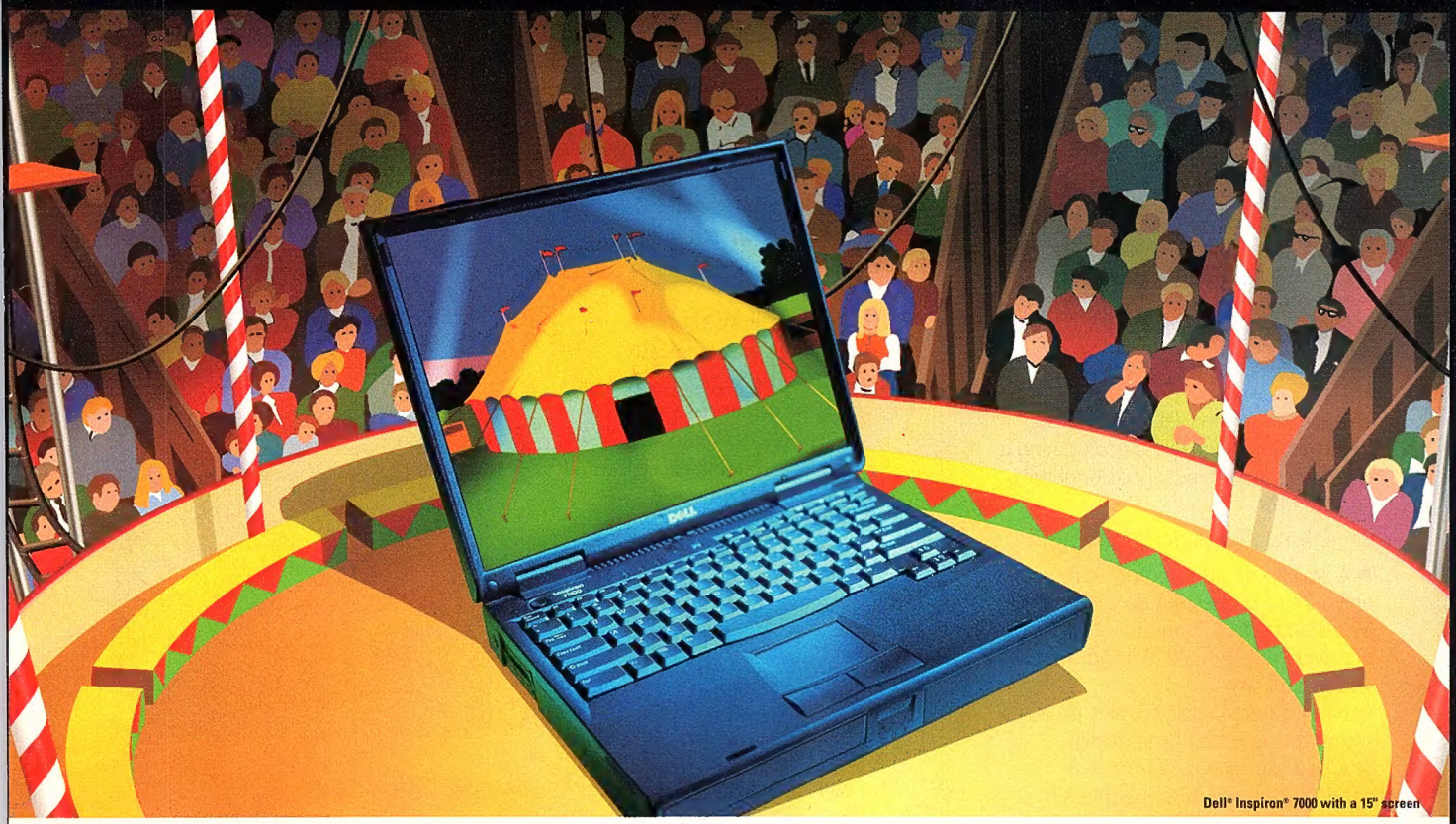

Dell® Inspiron® 7000 with a 15" screen

DELL® INSPIRON® 7000 A366LT
INTEL® PENTIUM® II PROCESSOR 366MHz

- Integrated 256KB L2 Cache
- 64MB SDRAM
- 6.4GB Ultra ATA Hard Drive
- 3.5" 1.44MB Diskette Drive
- 8MB ATI® RAGE LT PRO 2X AGP Video Controller
- High-fidelity Audio SoundBlaster Compatible
- 24X Variable CD-ROM Drive
- 15" XGA Colour TFT Display
- Microsoft® Windows® 98
- Microsoft® OEM Office 97 Small Business Edition
- 1 Year Limited Warranty
- Free Lifetime Telephone Technical Support

$5,199* plus delivery

or $44 per week**

Upgrade to:
- 128MB SDRAM $191
- 10GB Ultra ATA Hard Drive $381
- 4X Variable DVD-ROM Drive and Internal Decoder Card $324
- 56K Data/Fax Modem (V.90 Compliant) $229
- Iomega Zip 100MB Internal Drive $238

NEW DELL® INSPIRON® 7000 C366GT
NEW INTEL® CELERON™ PROCESSOR 366MHz

- Integrated 128KB L2 Cache
- 64MB SDRAM
- 4.3GB Ultra ATA Hard Drive
- 3.5" 1.44MB Diskette Drive
- 8MB ATI® RAGE LT PRO 2X AGP Video Controller
- High-fidelity Audio SoundBlaster Compatible
- 24X Variable CD-ROM Drive
- 14.1" XGA Colour TFT Display
- Microsoft® Windows® 98
- Microsoft® OEM Works Suite 99
- 1 Year Limited Warranty
- Free Lifetime Telephone Technical Support

$3,999* plus delivery

or $34 per week**

Upgrade to:
- 128MB SDRAM $191
- 6.4GB Ultra ATA Hard Drive $191
- Iomega Zip 100MB Internal Drive $238
- 56K Data/Fax Modem (V.90 Compliant) $229
- Second Battery $191

NEW DELL® INSPIRON® 3500 C366GT
NEW INTEL® CELERON™ PROCESSOR 366MHz

- Integrated 128KB L2 Cache
- 32MB SDRAM
- 4.3GB Ultra ATA Hard Drive
- 3.5" 1.44MB Diskette Drive
- 256-bit Graphics Accelerator
- High-fidelity Audio SoundBlaster Compatible
- 24X Variable CD-ROM Drive
- 14.1" XGA Colour TFT Display
- Microsoft® Windows® 98
- Microsoft® OEM Works Suite 99
- 1 Year Limited Warranty
- Free Lifetime Telephone Technical Support

$3,699* plus delivery

or $31 per week**

Upgrade to:
- 64MB SDRAM $95
- 6.4GB Ultra ATA Hard Drive $191
- 4X Variable DVD-ROM Drive and MARGI Decoder Card $477
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The competition closes August 31st, 1999. The winning entry will be judged on September 3rd, 1999 by the editor and publisher of PC World. The winner will be notified by phone and their name published in PC World, October 1999.

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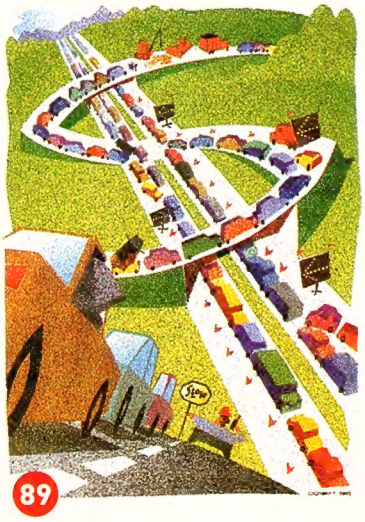

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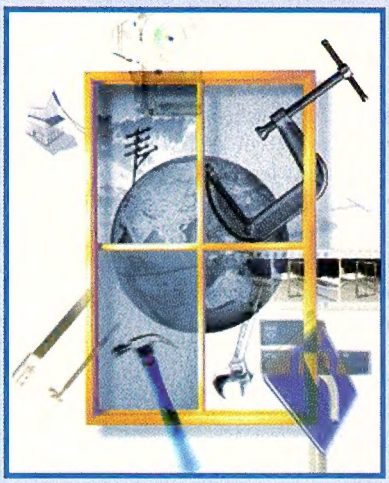

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Where have all the sceptics gone?

Imagine you receive an e-mail with a file attachment called list.doc. The subject reads: "Important Message From [insert name of colleague]" and the message body states: "Here is that document you asked for...don't show anyone else ;-)". How will you react? Will you:

a) hurriedly open list.doc to see what kind of list it is?

b) phone your colleague and ask why he or she has sent you a document you never asked for?

c) delete the message instantly because you think winking e-mails are patronising?

If you answered (a) then you could easily have been one of the 100,000-plus people who reportedly fell victim to the Melissa virus as it swept across the globe last March.

In case you missed all the hue and cry, Melissa is a Word macro virus which spreads via an e-mail attachment. If the recipient opens the attachment in Word 97 and happens to be running Outlook 98, Melissa will replicate itself to the first 50 people listed in the recipient's address book. The virus doesn't have a destructive payload (it won't even pretend to melt your hard drive or scramble your data) but it can cause more than a little embarrassment: the offending attachment, list.doc, details some of the bluest sites on the Web — not the kind of thing you want to forward to your valued clients and colleagues.

On March 31, Computer Associates (the new owner of the VET group of antivirus products) was claiming that Melissa had affected "dozens of Australian organisations" and caused "corporate and government e-mail systems to overload and crash". In a press release, the company stated that some organisations had been so badly affected they were "reduced to passing messages around on pieces of paper". Terrifying. The US appears to have been hit even harder. Major corporations such as Lucent Technologies were severely affected, and Microsoft was forced to block all its outgoing e-mail while the problem was investigated.

Industry pundits responded quickly with radical "solutions". The zealots wanted the alleged perpetrator hanged from the nearest beam, while more reflective commentators stressed the need for tighter administrative control over corporate e-mail. Some went so far as to suggest that companies ban e-mail attachments altogether.

Such proposals miss the point. Locking up the perpetrator won't be enough to deter other troublemakers (cyberterrorists, if you prefer) from creating similar or worse problems in the future. And although tighter controls on corporate e-mail systems may help to limit the damage caused by virus outbreaks, they risk interfering with legitimate business activities — if you've ever tried to send a vital graphic to a mail server that refuses to accept file attachments, you will know that draconican e-mail policies can create more problems than they solve.

A much better solution is to educate end users. If every computer user were made aware of the virus threat and encouraged to practise "safe e-mail" by having all their incoming messages scanned by up-to-date AV software, virus disruptions would all but disappear.

If that's a utopian goal, businesses should at least try to revive their staff's natural scepticism. For some strange, almost mystical reason, sensible people who would scorn a newspaper ad offering "free money" will cheerfully read and propagate the same message if they receive it electronically. Take the "Free Money" virus hoax, for example. Seemingly written by a southern Baptist from the Vincent Price school of literary pretension, the message reads: ". . . Once a computer is infected, it will be TOO LATE. Your computer will begin to emit a vile ODOR. Then it will secrete a foul, milky DISCHARGE. Verily, it shall SCREECH with the tortured, monitor-shattering SCREAM of 1,000 hell-scorched souls, drawing unwanted attention to your cubicle from co-workers and supervisors alike. After violently ripping itself from the wall, your computer will punch through your office window as it STREAKS into the night, HOWLING like a BANSHEE. Once free, it will spend the rest of its days CRUSHING household PETS and MOCKING the POPE."

No one would take that seriously, would they? Well yes, it seems they would. At the time of writing, Free Money has a place in the top 50 virus hoaxes listed on Symantec's antivirus Web site (www.symantec.com/avcenter/hoax.html). Also listed are the perennial Good Times and Join the Crew "viruses", not to mention Teletubbies and its lethal variant, the *Yellow* Teletubbies (shudder). Imagine the headlines on November 26 when Teletubbies ostensibly strikes: "Microsoft paralysed as Dipsy slams Redmond . . ." I can't wait.

Neville Clarkson

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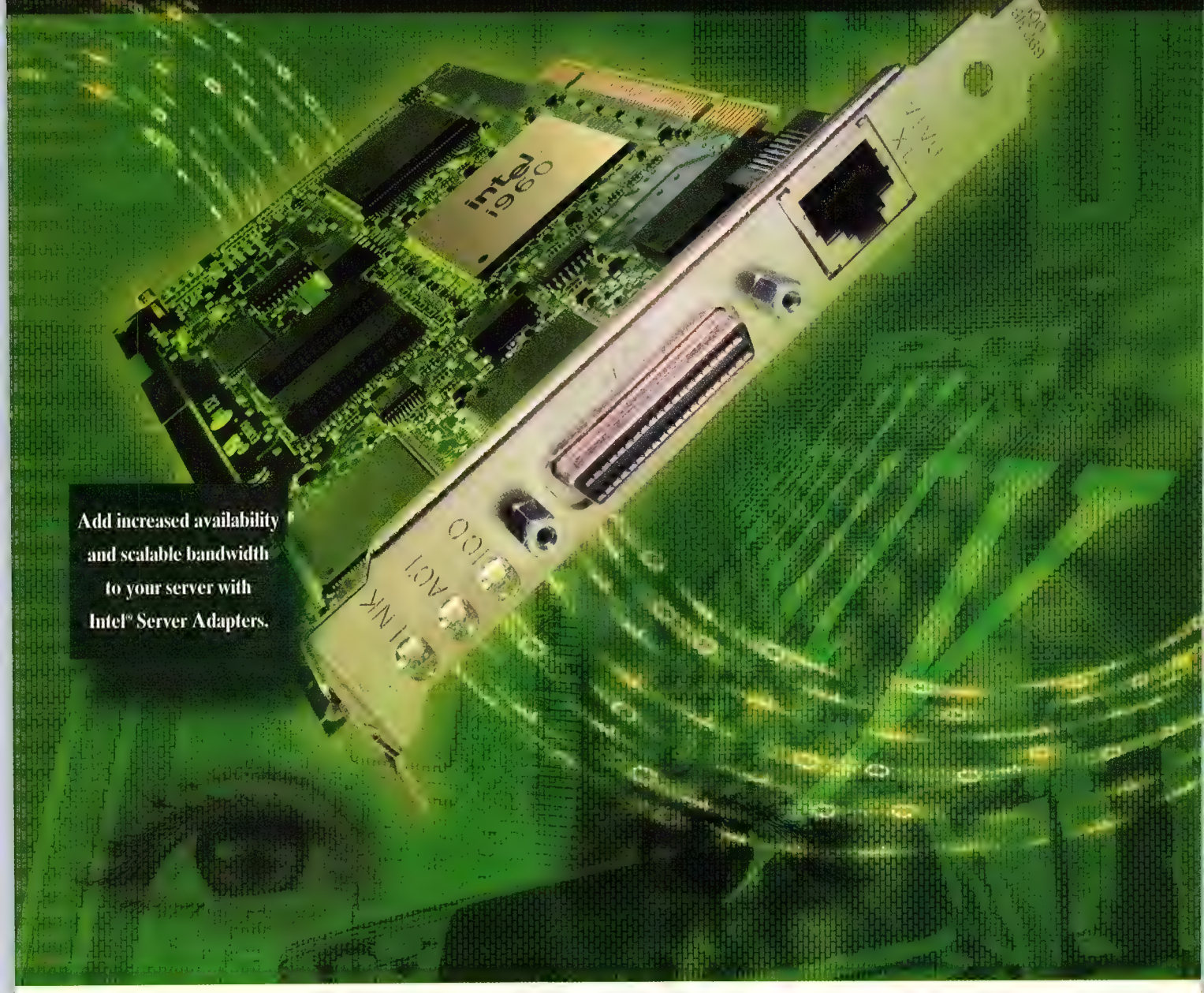

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Dialogue Box

Industry Watch

COMPAQ's WAKE-UP CALL

By Beverley Head

When Compaq Computer announced in April that it would report a quarterly result about half that which analysts had predicted it was enough to send the Dow Jones index, Australia's All Ords and Compaq's market capitalisation into a nosedive.

Chief financial officer Earl Mason warned "The quarter's shortfall reflects lower than anticipated market demand and increased competitive pricing in the commercial PC sector," while chief executive officer Eckhard Pfeiffer predicted that "While market conditions will continue to be competitive, we fully intend to expand our business and grow market share profitably in 1999."

Compaq was in good company. IBM had also related its PC woes — detailing three consecutive years of losses for its PC-making division.

Had the Midas sheen finally dulled for the PC sector? Probably not — but Pfeiffer and Mason's sheen was snuffed out by one quarter's results. Although the share market indices recovered swiftly, Compaq's market capitalisation did not and Pfeiffer and Mason were forced to fall on their swords by Compaq founder and chairman Ben Rosen who has assumed control of the computer giant.

Pfeiffer himself was a Rosen creation, installed in 1991 after Rosen sacked Rod Canion when the company found itself financially and strategically becalmed.

But the company Pfeiffer took the reins of in 1991 no longer exists, and nor does the marketplace in which he cut his teeth. In the one-time PC supplier's place is a full-range computing juggernaut, and while PC demand remains solid, PC companies' growth has been tempered by competition from rival suppliers and rival technologies.

Based on IBM and Compaq's assessment alone the PC sector might appear troubled. But Dell and Apple seem strangely immune, their outlook for the PC sector still bright. Dell's strength lies in its PC-centricity, its sales strategy, its tight hold on inventory, the outsourcing of much of its activity, and solid repeat business, and the fact that it is purely a PC maker. Similarly Apple, which has effected a decent turnaround. Both have found and are anchored in their niche.

IBM and Compaq, meanwhile, are broad range computing companies, offering systems up to mainframes, chips, software and services (including financial).

Five days after announcing the poor results Compaq unveiled what it termed its "Aggressive NonStop business strategy to Web-enable enterprise customers".

Said Pfeiffer: "It is clear that the Internet will become the dominant means of doing business worldwide. And to succeed in the Internet age, customers must adapt to a new paradigm of speed, global competitiveness and e-commerce where continuous connections to customers, partners, suppliers and employees are absolutely essential and where your competition is just a click away."

It's easy to dismiss the statement as sales rhetoric (and Rosen certainly appears to have done just that) for all the new gear Compaq now has to flog after buying Tandem and Digital.

But reread Pfeiffer's pitch, only this time replace the word "Internet" with the word "telephone", and remove the "e-" prefix.

Just as business since the Second World War has used the telephone as a key conduit, making telcos supremely powerful global corporations, so will it now be for the Internet and the "netcos". Pfeiffer — like IBM's Gerstner and Sun and Scott McNealy — wanted to own more of the Internet infrastructure and the repeat business that will generate.

PCs remain an important element in that plan and in serving a broader consumer demand — but it's not where the margin will be for the Compaqs and IBMs of this world.

The margin for such companies will be in the services and software, in the smarts sold as "the solution". With PCs reportedly selling for as low as $US300 in the US, and the advent of not so much thin as anorexic clients hooked up to a Web server, full-line computer companies were always going to hunt elsewhere for profits.

Ben Rosen has been widely applauded for taking swift and deadly action against the two executives who appeared to have wiped billions of dollars from the company's market capitalisation.

Yet these were the same executives who delivered that shareholder wealth in the first place. Theirs was the vision that the PC maker should become one of the world's largest computing suppliers, toughing it out with IBM, Hewlett-Packard, Fujitsu and their like.

Rosen gave Pfeiffer and Mason less than a year to deliver on that vision. Now he's charged with the tough task of finding someone who can make the vision trickle all the way down to the bottom line.

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Down to the Wire

TODAY'S 3-D TECHNOLOGY IS TOMORROW'S ACTUAL REALITY

By Nicholas Petreley

Back in August 1997, I introduced Petreley's Theorem. In short, it states that you can ascertain the direction of the computer industry by taking a gestalt perception of developing technologies and take them to their logical conclusion. My gestalt back then pointed to a convergence of corporate and consumer devices.

Well, I have a whole new gestalt. Given the mounting evidence, I believe we're now moving toward a new technology that I will dub Actual Reality, or AR. Admittedly, the concepts behind AR are radical. So rather than describe this future up front, I would like to walk you through the reasoning that led me to this conclusion.

When you get a chance, take a look at the new 3-D virtual machine from Hypercosm (www.hypercosm3-D.com) called Hypercosm 3-D. Assuming you are an electronic commerce site, you could use Hypercosm 3-D to publish 3-D representations of your products so customers can view them from any angle while shopping via their Web browser. For example, customers get to see a 3-D image of a barbecue grill that they can examine from every perspective.

Interactive Pictures (www.ipix.com) has a complementary technology called IPIX Steerable Video. In this case, you use a special camera to take a picture of your surroundings. Then you publish the picture in such a way that customers can view the scene as if they were inside a spherical photograph. They can look up at the sky, down at the ground, or even spin around to look behind them.

These technologies are great ideas, but they don't go quite far enough. If I understand the way Hypercosm 3-D works, it can be useful for e-commerce, but only if someone sits around and creates 3-D wireframe models for all the products on display. As for the IPIX Steerable Video, it gives you a sense of 3-D because you can look all around. But you're really looking at one big 2-D image wrapped into a sphere courtesy of a fish-eye lens.

What someone needs to do is build a camera that can take a holographic picture of a 3-D object, such as a barbecue grill, from several perspectives. Then the camera or a companion computer could convert the information into 3-D rendering instructions. You publish these compact instructions on the Internet so people can view a beautifully rendered grill from any angle.

The camera part might be tricky, but high-quality 3-D rendering is already commonplace. Today's games offer 3-D worlds so convincing that the experience is compelling regardless of the game design. For example, who'd have thought you could sell a game where you track down and kill a defenceless Bambi? Yet one of the most successful games in the US today is Deer Hunter. And all it amounts to is a 3-D hunting simulation.

If people go for Deer Hunter, surely they'd drool over a Web-based 3-D simulation that lets you drive your virtual minivan to the virtual mall. The simulation could even throw in a random fender bender or two now and then to make it realistic.

When you "arrive," the Web site would need to make the experience more accessible by providing speech recognition with a natural-language interface, and natural-speech synthesis for feedback. This is not very futuristic, folks. Lernout & Hauspie Speech Products is practically ready to deliver such software. Its text-to-speech synthesis is the most realistic I've heard.

If you take this technology one more step, you enter the future I call Actual Reality. Here's where e-commerce has the potential to get really exciting. Imagine an environment that allows you to physically move through the 3-D space. You can look up at the sky, down at the ground, and even spin around and look behind you. And everything you see is displayed in true 3-D graphics.

This is a world in which you touch and manipulate the minivan, drive it to a full-scale representation of the mall, and use your legs and feet to navigate through the stores. In an AR environment, you get to handle and examine products. You even get to chat with AR people. Best of all, you can experience AR with your friends and family without fighting over the mouse.

Like I said, it's a radical idea. But it just might come to pass.

■ *nicholas_petreley@infoworld.com*

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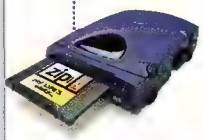

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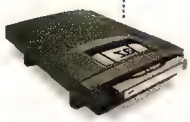

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Itchy Feet

TOURING HI-TECH TOKYO

By Mark Stafford

"You could go to Akihabara with no intention of buying anything and within half an hour find half a dozen things that you couldn't possibly live without."
- Lonely Planet Japan

This statement in my guidebook about Tokyo's major computer and electronics shopping district belies the fact that, indeed, most of Tokyo is a technology wonderland. So, come with me on a lightning tour of hi-tech in Tokyo, a blatant celebration of technology for its own sake.

First stop, the Sony Building. Filling six eye-popping floors in the Ginza district, this is the technology play-pen of Sony products. You can play with everything. One floor has a model from each product range — video cameras, PCs, hi-fi, and so on — specially constructed with a clear acrylic case. Another floor has a fully-operational TV control room (the studio is also in the building), presumably to give avCam owners something to aspire to. Then, on the sixth floor, there's the PlayStation section, where Tokyo office workers can while away their lunch hours on the latest game titles.

Sony Corporation is restructuring and will take over its PlayStation affiliate to cement the game console as a key company product. This news will not be lost on the businessman I watched for minutes on end playing the PlayStation fishing game. Just like real fishing, you stand patiently, wait, and jig the line (joystick). Stand, wait and jig the line. Wait and jig the line. Wait . . .

Next stop on the tour: the aforementioned Akihabara district, which basically turns a quick tour into a day-long marathon of gadgetry. No doubt you would scoot up to Akihabara by subway, reading the news headlines and latest ads on the TFT displays mounted inside the train carriages, and getting your boarding instructions first-hand from the station masters wielding their groovy but discrete radio microphones.

Akihabara threatens to break even the keenest of technophiles. Something just inside the door of a shop catches your eye — you're drawn inside, you find a whole department to wander through, then another, and then you pop back out onto the street an hour later — only to realise there are dozens and dozens of other techno-emporiums to visit, just as enticing.

But themes emerge as you see the same product ranges appearing from store to store.

The most obvious are mobile phones. Japan's phone system is not compatible with ours, which is a crying shame when you see the size of the average model mobile phone. My theory is that the incredibly small mobiles explain the the huge market for accessories to attach to them — then they become big enough to find when you need them. It is not unusual to see a schoolgirl produce a mobile from a schoolbag, its size tripled by the multiple attached stuffed toys.

Satellite navigation systems for cars are also commonplace. Units that double as TV receivers and DVD players are available from the usual suspects, like Sony, Panasonic and Casio, but also from the car audio companies like Pioneer and Kenwood.

Apple Computer fans will be pleased to note that the iMac features prominently in Tokyo's Akihabara. It seems that Steve Jobs' wunderkind appeals to the Japanese aesthetic, as iMacs are often spotted in galleries amd museums, serving as information kiosks.

Among the blur of buttons, cables and beige cases are the stand-outs — these are the "gimme" gadgets to lust after — and my favourites just happen to come from NEC and Sony.

There are notebooks with bigger screens and faster CPUs than Sony's VAIO Note 505, but I've seen few that generate an immediate "I must have that" response like the grey and purple VAIO. It sports a 10.4in XGA display, 300MHz Pentium processor and 6.4GB HDD, crammed into a 1.2kg box just 2cm thick.

Also from Sony is the Glasstron "personal LCD monitor". The Glasstron looks a lot like Mark Waugh's cricketing sunnies, and basically amounts to two small LCD displays positioned just a few centimetres from your eyeballs. The glasses weigh 150g and incorporate Walkman-like headphones. They're comfortable to wear, the display is clear, but — like Mark Waugh — you look a bit naff wearing them.

NEC has a new ValueStar PC on the Japanese market that would be ideal for Internet use. It's basically a 14.1in display and a keyboard — the motherboard and drives are housed in the base of the display. The specs are quite pedestrian (266MHz Pentium processor and 4.3GB HDD), but, again, the box has "must have" written all over it.

My shopping list definitely includes an NEC aquarium. It looks like a fish tank, it sits on a cabinet like a fish tank, but it's really yet another flat-panel display that projects fish swimming around in a fish tank. Air bubbling up through a column of water in front of the screen completes the effect. Every home should have one. Best of all, you can choose between 12 different species to display, from boring old goldfish to seahorses, to the tasty Japanese favourite — squid.

The Japanese economy is in a bad way, and the general business vibe is still downbeat. Unemployment is rising and growth forecasts are pessimistic. I wonder how the Australian public would react to a taxpayer-funded $US60 billion bailout of Australian banks, as is happening here.

Still, it doesn't cost anything to window-shop for dozens of computer gadgets you can't possibly live without.

■ *Mark Stafford can be reached (occasionally) at unharmed@hotmail.com*

P-POP is unique to Canon.

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New BJC-7100 has even more refined PhotoRealism, 25 tonal levels and the

plain paper advantage.

And that's only part of the story.

Because the BJC™-7100 also features water-fast printing, even on postcard type stock, is significantly faster than its predecessor in B&W and up to three times faster for photo quality colour.

But, like all Canon high definition Professional Resolution printers, the story begins with quality.

7-colour process. The BJC-7100 has a seven-colour printing process using both conventional CMYK inks, and lower density CMY inks, plus a new image processing system. The result is not self-styled "photo-printing", but a unique Canon PhotoRealism™ process.

More sophisticated colour in 25 tonal levels. The inks can be mixed and layered to produce up to 25 tonal levels with up to 90 times the colour combinations of traditional CMYK inks. The result is finer colour gradations, richer dark tones and hard to produce light shades are virtually free of pixelisation. So high quality paper produces images that are almost indistinguishable from photographic prints.

Professional Resolution
Ultra-High Definition.

Better plain paper performance. Then there is P-POP (Plain Paper Optimised Printing), a process unique to the new BJC-7100. It bonds an invisible Ink Optimiser to the paper before inks are applied. The inks, in turn, bond to the optimiser. Plain paper text and lines are better defined, colours are more vibrant, tones are sharper, and print-outs become virtually water fast.

P-POP™ Water Resistance

Better paper handling, full bleed A4. Better plain paper use can obviously lower operating costs. It accepts virtually all paper types from plain to high gloss photo paper, has the ability to print full-bleed A4 and even accepts card-stocks at paper-weights up 550 gsm (0.8MM).

Canon Customer Care. All Canon printers feature a one-year warranty, upgrade-able to three years for minimal cost, and are backed by Customer Care hot-line support. Drivers are available for Windows® 3.1x/95/98.

If you need high definition PhotoRealism, even on plain paper, you need the P-POP advantage. To learn more about the new BJC-7100, call us on 1 800 021 167.

Photo Realism™

New BJC-7100 – $599RRP

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Coffee Break

COUGHING UP CHANGE

By Reg King

As the traffic stretched out before me I began wondering what the hold-up could be. Probably a car had broken down and the three lanes of traffic were being forced into two. This is the kind of science that seems to thwart the ability of the majority of motorists. I then began examining the occupants of the cars around me. Most were isolated in their little cocoon, caught up in thoughts similar to mine or maybe planning the day that lay ahead. Such is the love affair we have with the motor vehicle that few would swap the independence it offers for less harmful modes of transport.

I can recall the interest of the townspeople when my father arrived home from the city in his new Packard. It was 1951 and the car was one of the first automatic vehicles in the country. For weeks, interest and curiosity went unabated. Every time we went to town, people who had heard about the new "clutchless" car would insist on a demonstration. Although very exciting for the time, it seems very ordinary in the light of current technological developments in motor vehicles.

Features like electric windows, air-conditioning and CD players are beginning to look ordinary, too, in light of the very latest inclusions in the modern car. The list of options reads like a shipping manifest!

Significant publicity has been given through the media, and indeed in this column, to the GPS navigational system. Its recent inclusion as standard equipment in the inexpensive Hyundai Sonata will see this high technology equipment soon become an option on all new cars.

Most car engine management systems are now controlled by computer. With this has come some amazing developments that either pass unnoticed or are taken for granted in an increasingly technological community.

BMW's Dynamic Stability Control 3 turns good drivers into excellent ones. It takes control of slippery situations before even the best of drivers could make the necessary adjustments. Unlike normal electronic traction control systems, it adds yaw-turning-rate and lateral G-force sensors. This provides data that allows the onboard computer to recognise lateral sliding. If it detects that the car is about to drift, it can reduce torque via the engine management system or selectively apply brakes via the anti-lock system. When driving responsibly, it makes cornering under the most difficult situations almost foolproof.

Mercedes Benz's Distronic system sends out short-wave radar pulses to measure distance to the car in front. If it detects that it is following too close, it will ease off the throttle. Where the distance closes rapidly, it will ease off the throttle, apply the brakes and sound an alarm to alert the driver. Benz also has a system to warn the driver if it detects that he or she is about to drive across the centre line to the wrong side of the road.

Then there is the HUD (Head Up Display) system. This is the same technique used in fighter planes to provide the pilot with vital details. The system produces an outline image of the road ahead on the windscreen, directly in front of the driver. Objects on the road are then shown on this display. For example, if a car had broken down around the next corner this would be shown on the HUD, alerting the driver up to two kilometres in advance.

Such amazing improvements do a great deal for the safety of the occupants of the car. But what has been done to protect them when they finally emerge from the vehicle? With all the work done on emission controls, cars still account for more than 20 per cent of CO_2 emissions worldwide. What this will become when mass motoring begins in China and India in the next century is anyone's guess. Alternative fuels seem the most likely answer. However, their short term introduction seems unlikely given the huge worldwide investment in crude oil.

In the meantime, technology has certainly changed the face of motoring. I can recall when it was the cars that "coughed"!

■ *Reg King can be contacted on (02) 9873 1313, via e-mail at regking@ozemail.com.au, or you can write to 87 Murray Farm Road, Carlingford, NSW 2118*

1440 dpi

up to A3.

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1440 DPI, PhotoRealism, richer blacks, exceptional speed, plus

independent cartridges.

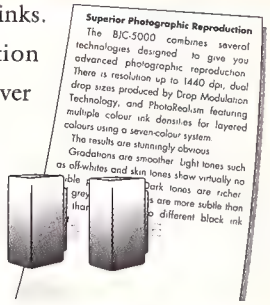
The idea of a dual cartridge system has existed for awhile. But needless to say, some systems are better than others. The new BJC™-5000 proves this point.

1440 dpi with variable ink drop sizes. Both the standard colour and optional PhotoRealism™ cartridges use Canon's Drop Modulation Technology™ with variable drop sizes in resolution up to 1440 dpi. The combination delivers smoother colour gradations and far less "grain" on virtually all paper types.

New dual-cartridge system enhances performance. Then, a special dual cartridge system lets both cartridges act independently to complement each other. In "split-page mode" identical black or colour cartridges can effectively double print speeds. Or, using different ink types you can produce exceptional quality effects, with the printer automatically identifying and using each cartridge for the desired result.

Professional Resolution Ultra-High Definition.

90 times more colour combinations. For instance, PhotoRealism inks can be used with conventional inks for a seven-colour ink system, with multiple ink densities per pixel for up to 90 times the colour combinations of conventional CMYK inks. Combined with Drop Modulation Technology the result approaches silver halide quality reproduction.



Superior Photographic Reproduction

The BJC-5000 combines several technologies designed to give you advanced photographic reproduction. There is resolution up to 1440 dpi, dual drop sizes produced by Drop Modulation Technology, and PhotoRealism featuring multiple colour ink densities for layered colours using a seven-colour system.

The results are stunningly obvious. Gradations are smoother. Light tones such as off-whites and skin tones show virtually no [illegible] Dark tones are richer [illegible] are more subtle than [illegible] different black ink

An all-new approach to black. It uses new, black ink that is blacker than conventional ink. As a result, black & white documents have an exceptionally high degree of finish. Two of these cartridges (BC-23) are included in the box, and may be used simultaneously.

Independent print heads can halve print time.

Print up to A3. Both standard and PhotoRealism inks may be used on all A4 paper types. It will also print up to A3, and supports banner printing to the equivalent length of 6 A4 pages.

Canon Customer Care. All Canon printers feature a one-year warranty, upgradeable to three years for minimal cost, and are backed by unlimited hot-line support. To learn more call us on 1 800 021 167.

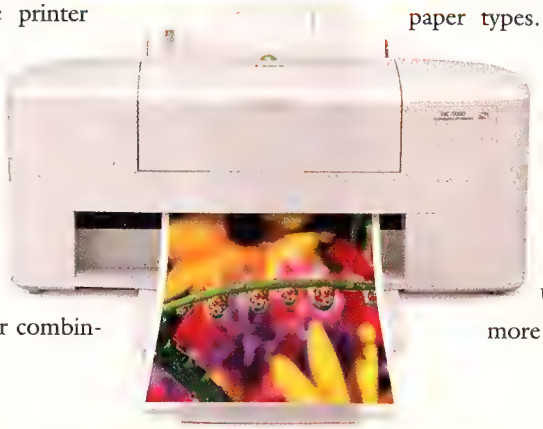


Photo Realism™

New BJC-5000 – $599[RRP] including 3 cartridges.

Canon

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CS6002

Top of the News

WINDOWS, WINDOWS, WINDOWS!

THREE NEW VERSIONS IN THE NEXT 12 MONTHS

Last year, Bill Gates promised us that Windows 98 was the end of the line for DOS-based Windows — that Microsoft would base all of its future operating systems on Windows 2000 (the OS formerly known as Windows NT). But it turns out Bill was wrong.

In the third quarter this year, Microsoft will release Windows 98 Second Edition, an upgraded version of Windows 98. The company has also decided to release another Windows 9x-based operating system, probably in the latter half of 2000. Meanwhile, Windows 2000 should appear by the end of this year. The company still intends to create a consumer OS based on Windows 2000, but that product probably won't appear until 2001 or later.

So what should you do? Stick with Windows 9x? Upgrade to Windows 2000 when it comes out? Our first looks at the latest betas of Windows 98 SE and Windows 2000 indicate that if reliability and security are at the top of your OS wish list, Windows 2000 will be worth waiting for. But if compatibility with older applications and entertainment-oriented hardware is more important to you, the Windows 9x line will still be your operating system of choice.

WINDOWS 98, TAKE TWO

As the name implies, Windows 98 Second Edition is the same old OS gussied up with a few new tweaks. While SE may be a good upgrade for people still using Windows 95 or Windows 3.x, Microsoft admits it's not a must-have for Win 98 users, and that it will be attractive mainly to early adopters of home networking, cable modems, and DSL (Digital Subscriber Line — not yet available in Australia).

The upgraded OS will include Internet Explorer 5, support for new types of hardware (such as the new Device Bay, IEEE 1394, and the aforementioned DSL and cable modems), and some bug fixes. But its most significant new feature is Internet Connection Sharing, which lets networked users access the Net simultaneously over a single connection and ISP account.

In testing a prerelease version of SE, we found ICS dead simple to set up: after a quick install, all the systems on a basic home network were able to share a single Dial-Up Networking connection. ICS is not unique: such "proxy" products have been available for years. But ICS makes this functionality easier for users to implement — and signals Microsoft's intention to make home networking an integral part of its operating systems.

Windows 98 SE will appear in three forms: an OEM version for installation on new PCs; a retail version aimed at upgraders from Win 3.x and Win 95; and a CD-ROM that current Win 98 users can order from Microsoft. A free service pack containing just the bug fixes will be available for free download. Other features of Win 98 SE — including Internet Explorer 5, DirectX 6.1, and some non-crucial security and Y2K fixes — are already available for free online.

THE FUTURE OF 9X

But that's not the end of Windows 9x. At a recent Windows Hardware Engineering conference in Los Angeles, Microsoft president Steve Ballmer announced that the company will release a new consumer OS, based on the same kernel as Windows 98, in time for holiday shopping in December 2000.

Ballmer says the new operating system — unofficially known as Consumer

Continued page 22

SOUNDBYTE

"This is your Web site — it's open source — and I want you to help us build it."

-Al Gore, US Vice President, had cybergeeks scratching their heads when he proclaimed his new Web site (www.algore2000.com) to be "open source". He even asked visitors to contribute code to enhance the site. "Open source" is the term traditionally used to describe the free distribution of software code.

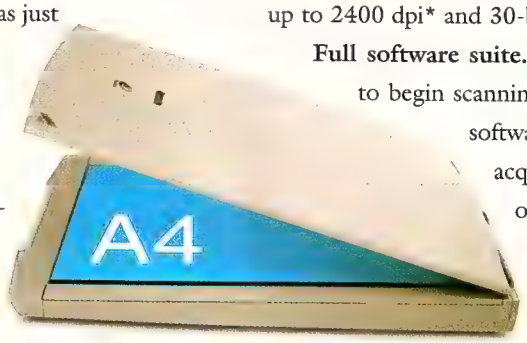
Canon's patented new LIDE technology helps these new scanners

break the price/quality barrier.

Reinvent is the most over used word in the computer business. But this time it's true. Canon has just reinvented scanners.

And not a little bit, but completely.

Introducing LIDE.™ Using a new, patented technology called LIDE (LED Indirect Exposure), we have fundamentally changed the way scanners work, and their price/performance ratio.



LIDE eliminates the need for costly, complex optical mirrors in image acquisition, while it maintains superior image quality and colour clarity.

Easy to use. At the same time, LIDE allowed us to design a smaller, sleeker scanner with an exceptional combination of beginner and expert controls, and with easy to connect (daisy chain) parallel port connections for Windows® 95/98 and NT 4.0.

The new CanoScan™ FB 320P and FB 620P offer a choice of 300 or 600 dpi optical resolution, plus enhanced resolution up to 2400 dpi* and 30-bit colour acquisition as standard.

Full software suite. Both come with everything needed to begin scanning immediately. The CanoCraft CS-P software works for both stand-alone image acquisition, and as a TWAIN driver for other applications. It features new, easier to use controls, and advanced controls for colour matching and image definition. Also included are PhotoExpress for image editing and OmniPage LE for OCR, a CD-ROM with full tutorial and user's manual, a parallel cable and power supply.

LIDE LED Indirect Exposure

Canon Customer Care. The FB 320P/620P scanners feature a one-year warranty upgradeable to three years for minimal cost, and are backed by unlimited hot-line support.

The new CanoScan FB 320P and FB 620P. You can see they are different at first glance. To learn more call 1 800 021 167.

Photo Realism™

FB 320P – Now $199RRP
FB 620P – Only $299RRP

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OZ COMPANY PICKED FOR DOMAIN NAME TRIAL

An Australian company has been selected as one of five organisations around the world to be involved in a trial run of the new Internet domain name registration system.

Melbourne IT, which trades in the domain name registration space as Internet Names Australia (www.ina.com.au), has been chosen to participate in a two-month test of the new system being implemented by the Internet Corporation for Assigned Names and Numbers (ICANN), a non-profit organisation.

The new system has been designed to introduce competition into the registration of the top-level domains .com, .net and .org, which had been controlled by US company Network Solutions (NSI), a contractor for the US Government.

The testbed also includes the likes of America Online, the Internet Council of Registrars (CORE), France Telecom SA's Oléane subsidiary and register.com.

Said Michael Dowling, the company's business development and sales manager, of the news: "We felt we had a good chance because of the reputation we have earned with the com.au space in this region. We also felt that they would be looking for geographic reach in terms of the registrars they appointed."

After the test, NSI will have to grant equal access to registry services to all accredited registrars. At least 25 more accredited registrars are expected to begin offering registration services at the end of June, said Michael Roberts, interim president and chief executive of ICANN.

In the long term, it is anticipated the price of registering .com, .org and .net domain names will come down. Other benefits from the new system will be better service standards and a quicker registration process that will be as automated as much as possible, according to Dowling.

-Molly furzer and Margret Johnston

BSAA: GRACE FOR SOFTWARE PIRATES TO "GET LEGAL"

Software Piracy.
Get legal or get sprung.

"Get legal or get sprung". That's the message the Business Software Association of Australia (BSAA) is sending out in its new anti-piracy publicity campaign, complete with a scary looking mouse trap (of the PC kind) and direct mail-outs highlighting previous successful court cases against users of illegal software.

And for the first time, the BSAA is holding an amnesty — a 60-day grace period for users to "get clean" — to purchase licensed software and get rid of pirate copies.

The period, which began April 30 and ends June 30, will see the BSAA assist computer users in getting compliant, without a risk of legal prosecution, said the association's chairman Jim Macnamara.

Ten software companies in Australia are members of the BSAA, including Microsoft, Symantec, Adobe Systems and Micrografx. Companies and individuals in the past have been prosecuted by BSAA members for infringement of software licences, with damages in excess of $100,000 being awarded.

The most recent research by the BSAA suggests that 31 per cent of software on PCs in Australia is illegal — a fact that Macnamara said would cause an absolute outcry in any other industry.

The BSAA's research, he said, indicates that many users of illegal software are doing so through ignorance: "It's one of those things that many people have never thought about or just never got around to."

BLUETOOTH SPEC TO DEBUT

June will see the debut of version 1.0 of the Bluetooth specification — a technology that is anticipated to revolutionise the way peripherals, desktops and notebooks are networked.

Bluetooth is a wireless networking technology that will take the form of low-cost embedded modules in PC peripherals, mobile phones, notebooks and PDAs, making cables obsolete.

A voice and data transfer rate of up to 1Mbps will initially be provided by the technology, which will have a typical reach of 10 metres.

The Bluetooth Special Interest Group, a consortium founded last year by Ericsson, Nokia, Toshiba, Intel and IBM, has been working on the specification and anticipates the first release of a Bluetooth product will be in the first quarter of 2000.

Bluetooth products on the books include an Ethernet hub, a Bluetooth module for printers and Bluetooth PCMCIA cards to upgrade existing notebooks.

Aside from the five companies involved in Bluetooth's development, 486 companies have signed up as adopters of the technology.

-Molly Furzer

INTEL CHIPS TO GAIN MORE PERFORMANCE

With two new products due to be released this year, Intel is claiming its Celeron and Pentium III processors will make gains in performance.

The first is a new and more versatile 810 core logic chip set for the Celeron processor, which will include integrated video, eliminating the need to support video with either a more costly video card or a discrete video chip.

The 810 chip set will also include Direct AGP (accelerated graphics port), an AGP-class

Australia's most popular printer for home and small offices combines exceptional value, with outstanding performance.

Use 75% less ink. Super Economy mode reduces ink consumption by 75% compared to Standard mode, and works for both black and white and colour. Combined with an optional high capacity, black ink cartridge, it can print up to 2400 pages in black and white, and up to 400 in colour using standard inks*. That's anywhere from two to five times the output of any direct competitor!

Photo quality printing. There are three colour print modes – Normal, Fine and Photo. Photo mode emphasises highlights and contrasts, and improves half-tones by producing richer blacks. Or, using the optional black ink cartridge, you can convert the BJC™-265SP to a fast B&W printer.

Brilliant colour, super economy, optional PhotoRealism, better Internet printing,

all for just $169.

Optional PhotoRealism™ To this Canon adds the option of PhotoRealism inks, for photographic reproduction approaching silver halide quality. It produces up to four times the colour combinations of conventional CMY printers, for smoother colour gradations and more accurate colours in skin tones and other light shades.

Better Internet images. Image Optimisation takes low resolution Internet images (typically 72 dpi), and prints them at the highest resolution supported by the printer to reduce jagged edges and pixelisation.

Canon Customer Care. All Canon printers feature a one-year warranty, upgradeable to three years for minimal cost, and are backed by Customer Care hot-line support. Drivers are available for Windows® 3.1x/95/98 and Windows NT. The BJC-265SP offers exceptional operating economy plus high quality colour printing, for just $169. For more information call 1 800 021 167.

Photo Realism™

BJC-265SP colour Bubble Jet™ printer – $169RRP

Canon

* Based on 5% page coverage for B&W and 7.5% coverage for colour, Super Economy not available with PhotoRealism inks. Price shown is the recommended retail price including tax. Canon and the Canon logo are registered trademarks and BJC, Bubble Jet and PhotoRealism are trademarks of Canon Inc. Windows is a trademark of Microsoft Corp. in the U.S. and other countries. Canon Australia Pty Ltd, ACN 005 002 951.

CS6412

ONLINE GAMING FIRST IN NT

In the midst of a lengthy and still ongoing debate regarding the regulation of online gaming in Australia, the country's first licensed online gaming site has been launched, albeit in limited mode.

Lasseters Online (www.lasseters.com.au), a production of Alice Springs-based Lasseters Hotel Casino, was launched in April at a cost of $5 million and two years work.

The site offers registered users the opportunity to play games including blackjack, roulette and slot machines, but won't be available to all Australians until a national regulation scheme is resolved.

Lasseters Online was ready to debut nationally, but its operators acted on the Northern Territory Government's recommendation that only Northern

Territory and overseas residents be initially allowed to use the service.

Despite some Australian states passing legislation in 1998 to regulate online gaming, the Federal and State Governments are still in discussions regarding a national regulatory model — specific to the debate, the sharing of taxes derived from gaming.

From page 18

Windows in 2000 — will emphasise easier setup, faster booting and self-healing (in which the operating system detects and solves problems without interrupting the user). The new OS is also likely to continue Microsoft's commitment to home networking by supporting Universal Plug and Play, the Microsoft-initiated technology for enabling smart devices — including consumer electronics — to interconnect with your computer and with one another.

Meanwhile, Microsoft is planning to ship Windows 2000 — which was originally scheduled to ship in 1998 — by the end of 1999. The current target date for shipping the operating system to computer vendors is October 6.

Observers question the wisdom of shipping a major new corporate operating system at a time when IT managers will be busy grappling with the year 2000 problem. But Microsoft product manager Kim Akers insists that Y2K will not delay Win2K.

In looking at a prerelease version of Windows 2000 Professional (the desktop version of the new operating system), we found reliability high on the list of new features. For example, when we tried to install Lotus SmartSuite on our test PC, the System Protected Files feature detected that the Lotus installer was trying to overwrite certain crucial system files. If an application attempts to install a DLL over the version that came with Windows 2000, System Protected Files automatically replaces the interloper with the original file on the next boot-up.

Though Microsoft continues to develop both Windows 9x and Windows 2000, the company hasn't abandoned its dream of unifying its operating systems into a single product, with separate flavours for the home and corporate markets. This consolidated system, however, won't be available until 2001 at the soonest.

For now, Microsoft's marketing message remains the same: businesses of all sizes should move to Windows 2000 as soon as possible. Meanwhile, home buyers — and anyone still using Windows 95 or 3.x — should consider upgrading to Windows 98 SE; those who don't find Windows 98 SE compelling enough can wait for the next version of Windows 9x in the year 2000 or for the consumer version of Windows 2000 sometime after that. Our advice: upgrade your OS if and when you need to, but don't plan too far ahead. PCW

product that will offer users high-quality video in a low-cost system.

One version of the chip set, 810-DC (Display Cache), will allow system vendors to connect directly to video RAM, as high as 6MB.

For example, Dell Computer will ship the 466MHz Celeron systems with the 810-DC chip set with 4MB of discrete video memory that "hangs off" the chip set bus, according to a company spokesman.

Dell expects to ship systems with the new chip set by mid-year. Vendors offering systems prior to the 810 will include the less scalable ZX chip set, which one vendor described simply as a time-to-market vehicle.

And if you're worried that the Pentium III doesn't really offer enough horsepower for games and video, Intel's new 752 graphics accelerator is promised to add high-end multimedia support to its performance PC chip line.

The 752 graphics accelerator has been optimised for the PIII and offers PC users an all-terrain graphics accelerator, according to Intel.

As the newest member of the Intel Graphics Technology family, the 752 graphics chip accelerates digital video, boosts 2D graphics quality and provides enthusiast-level 3D rendering for PC gamers, power users and design professionals, the company said.

- Ephraim Schwartz and Christian McIntosh

NEW AMD CHIP TO TACKLE PIII

AMD is to launch its much-awaited K7 CPU in mid- to late June, the company has announced.

The K7, expected to debut at 500MHz, is built around a new core and a 200MHz bus based on technology developed by Digital Equipment. Most analysts expect AMD's new chip to outperform the Pentium III.

An incredible list of features, at a stunning new price, in a

full sized printer.

It can cut ink consumption by 75%, be used as a scanner, improve printed images down-loaded from the Internet, or even print banners. And this is in addition to better colour for plain paper, PhotoRealism inks for the gold standard in photo quality printing, plus super fast B&W!

Better operating economy. Super Economy mode reduces ink consumption by 75% compared to Standard mode, and works in both black and white and colour. It can print up to 3600 pages in black and white, and up to 400 in colour.[1]

Better on plain paper. Another feature is Canon's Drop Modulation Technology with dual drop sizes for smoother colour gradations. It is designed to produce better looking colour on plain paper, which also helps keep operating costs down.

The PhotoRealism gold standard. When quality is most important, there is the option of Canon PhotoRealism inks. They vary the saturation per pixel so that a single dot could have 0%, 33%, 67% or 100%. This produces up to five times as many colour combinations as conventional CMYK inks, with better half-tones and almost no visible grain, even in areas of low colour density.

Super Economy in colour and B&W

High speed blacks. A high-speed black ink cartridge with 128 print nozzles is included with your purchase. It is capable of speeds up to 510 characters per second (4.5PPM).[2]

It's even a scanner. The optional IS-22 scan head allows you to turn your printer into a colour scanner in seconds. It scans colour images up to 360 dpi and offers high speed B&W scanning for fax, OCR and copying functions.[3]

Canon Customer Care. All Canon printers feature a one-year warranty, upgradeable to three years for minimal cost, and are backed by unlimited hot-line support.

The BJC™-4310SP. Everything you could ask for in a printer, and a little more. For more information call us on 1800 021 167.

Photo Realism™

BJC-4310SP colour Bubble Jet™ printer – $239RRP

Canon

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Online News

STOCK ART GOES ONLINE, TARGETS CONSUMERS

Stock art, a costly option for even publishing houses, is now going for the consumer market, and doing it online.

Bill Gates' own image-database vendor Corbis (www.corbis.com) has recently gone public with an online consumer sales site featuring more than 350,000 images.

Users are given unlimited non-commercial use of images which are priced at a mere $US3. Images come as 640 x 480 JPEG files and include a Digimarc digital watermark to trace unauthorised use.

The Corbis collection includes colour and black-and-white photos, as well as paintings and other visual materials.

Gates founded Corbis 10 years ago when he started buying digital rights to famous artwork. The collection includes images from some of the world's finest museums, among them the State Hermitage Museum in St Petersburg, the Bettmann Collection and the US Library of Congress.

ONYA! AWARDS GAIN SUPPORT

The inaugural Australian Online Music Awards, also known as the ONYA! Awards, have gained the support of OzEmail and Microsoft this year, who will co-sponsor the event due to be held on August 7.

The awards, produced by music industry media company IMMEDIA!, honour music artists, record companies and music media, and include categories such as Best Online Music Event of 98-99, Best Australian Independent Record Label Site and Best Music Radio Station Web site.

Nominations will commence on May 1, and voting May 15, at the awards site www.onya.com.au. The awards ceremony will follow the two-day biennial National Entertainment Industry Conference on August 6 and 7.

OZEMAIL SERVING UP LOCALISED WEB ADS

Online advertisers will be given the opportunity to target specific regions and cities in Australia, OzEmail has announced. The company is currently trialling a regional ad server in Sydney and Melbourne.

A first it claims for Australia, OzEmail's ad serving technology will enable advertisers to deliver localised advertisements to Web surfers.

Over the next few months, the company said, it would roll out the technology to its subsidiary companies around Australia, including Camtech in South Australia and Power Up in Brisbane.

LYCOS LAUNCHES INTO ONLINE BROADCASTING

Lycos has launched itself as an online broadcaster, creating its own online radio station, Lycos Radio (www.lycos.com/entertainment/lycosradio.html), complete with disc jockeys.

Simultaneous music and video will be played by disc jockeys on the five channels of Lycos Radio, which includes hip hop, smooth jazz, alternative and country. The number of channels is set to expand, the company has said, and it is offering listeners the chance to buy CDs and merchandise as they listen to the music.

Like a real radio station, the disc jockeys will take requests (via e-mail), and make news or promotion announcements.

If listeners hear a song in mid-stream, they can hit "replay" to start at the beginning of the song, taking control away from the disc jockey, said Lycos. RealPlayer software is required to receive the free service.

Meanwhile, advertisers can target their ads to users of a specific station or have ads run when certain music is playing, Lycos said. pcw

Canon BJC-80
$399RRP

Canon BJC-50
$699RRP

PORTABLE
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Advanced colour, cable-less communications, optional scanner plus two sizes that are

Small and smaller!

Canon has a wonderfully new idea for people that need a portable printer. A choice.

On the small side there is the BJC™-80. It is a fraction of the size of a briefcase. Yet, with its in-built sheet feeder and power adaptor included as standard, it is designed for people who have to produce high volume output from a very small printer.

Drop Modulation Technology.

Conversely, if size is critical, there is the brand new BJC-50 with in-built battery. It's not just small, at approximately half the size of the BJC-80 it's absolutely tiny.

Equally impressive, their performance is as big as their size is small.

Using Canon's advanced Drop Modulation Technology™ you can print everything from colour charts, to high quality photographs. Or, in seconds you can convert to extra high-speed black and white for finished business documents using the dedicated black cartridge with 128 print nozzles!

The BJC-80 fits in approximately half the space of a briefcase. The BJ-50 is approaching 50% smaller still.

Optional colour scanner.

For greater portability, both models include an infra-red port for totally cable-less communications with any suitably equipped Windows® 95/98 notebook or PC.

And, if you really need the functionality of an office in the space of a briefcase, both models will accept an optional colour scanner head in place of the print head. It takes only seconds to change the heads. You can then use the scanner head to acquire colour images, or for fax and OCR functions.*

Cable-less communication.

Canon Customer Care. All Canon printers feature a one-year warranty, upgradeable to three years for minimal cost, and are backed by Customer Care hot-line support. Drivers are available for DOS, Windows 3.1x/95/98 and Windows NT.

If you need help choosing between small, and smaller, give us a call on 1 800 021 167.

Canon portable colour Bubble Jet™ printers

Canon

Prices shown are recommended retail prices including tax. *Scanner-head works with Windows 95/98 only. Fax and OCR software not included with purchase. Canon and the Canon logo are registered trademarks and Drop Modulation Technology, Bubble Jet and BJC are trademarks of Canon Inc. Windows is a trademark of Microsoft Corp. in the U.S. and other countries. Canon Australia Pty Ltd ACN 005 002 951.

CS6019

Readers' Forum

MICROSOFT UNFAIRLY TARGETED

- Ziggy Malter

I am appalled by the "plan" that Nicholas Petreley has proposed in relation to dealing with Microsoft (*Microsoft can reverse fortunes with the DoJ*, April 1999, p10) and I will deal with each item that he has postulated.

In Item 1, Mr Petreley proposes that Microsoft should guarantee source-code availability for its OSes. Now why on earth should any company hand out its proprietary intellectual property to anybody at all? The analogy of Coca-Cola comes to mind where that company outsells its nearest opposition by far, however its drink formulas are the most highly-guarded secrets in the industrial world.

Microsoft owns Windows outright. It is the property of the shareholders and any attempt to force Microsoft to reveal, give or sell its source code is nothing more than theft and blackmail. If it is perceived that Microsoft uses its OS to unfair advantage, there is absolutely nothing to stop opposition companies from producing their own OSes and software that runs under them, giving Microsoft some sorely-needed competition. However if the opposition do not produce viable OSes but merely demand that Microsoft be forced to hand over its property to them so they can compete with Microsoft, then they are stupid. If Ford invents a secret process that allows cars to run on water, do you really think they're going to reveal this to Toyota?

As for Internet Explorer, Microsoft should have the right to include or exclude any of its source code and add-ins to its products. If a new version of Windows includes Explorer as an integral part, so be it. There are a number of games and system tools bundled with Windows. Are there complaints from Norton Utilities that system tools are included with Windows for free? Are game software producers complaining that Solitaire and Minesweeper is included with Windows?

In Item 2, Mr Petreley suggests that Microsoft top executives should quietly retire. This is most insulting, because these very same people have propelled Microsoft to be probably the most successful company in history and its chief the richest man in the world. Anybody that knocks such an achievement must be off the planet themselves. I could make the suggestion that since Mr Petreley chooses to ignore such achievements, that *he* should retire quietly.

In Item 3, Mr Petreley suggests that Microsoft should reinvest its profits in the company by paying its employees better. Is he joking? For starters, there are probably more millionaires working for Microsoft than for any other company. Furthermore, its R and D budget is probably larger than the economies of many countries.

My solution to deal with the Microsoft juggernaut is to compete with it, not by demanding that Microsoft be forced to hand out its secrets, but for the opposition to band together and produce an operating system that works better than Windows, has fewer bugs and that is far more stable than Windows. It is not beyond them to do this — look at the impact Linux is making right now.

In fact, if all of Microsoft's opposition ported their software to Linux and promoted it heavily as the OS of choice, I imagine many people would adopt it over Windows, especially since Linux is essentially free. At the end of the day, Microsoft would wind up as just another player in the OS market.

BEWARE THE CLONE CARTRIDGE

- Glen Challen

Firstly I love your publication and always look forward to receiving my copy. Thanks also for your inclusion of the Linux CD in your previous issue. As another reader put it, Linux has given new life to some of my other PCs.

We are pleased to receive your letters, but please keep them to less than 300 words. We reserve the right to edit letters for publication.

Please send mail to PO Box 295, St Leonards, NSW 2065 or e-mail Neville_Clarkson@idg.com.au

Only Canon offers a way to acquire and print images in colour with a

printer and scanner in one!

Canon has a unique solution to a question that has often plagued colour printer users. How do you get the image in, so you can output it to your Canon colour Bubble Jet™ printer?

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It takes only seconds to replace the print head with the scanner head. This then allows you to acquire images for storage, editing, manipulation, placement on the Internet, or even OCR and faxing, with the right software.

Easy to use. To get you started, Canon includes image acquisition and editing software with your scanner head purchase at no extra cost! And using it, you can scan full colour or 256 grey-scale images in resolution up to 360 dpi. Or you can use high-speed mode if you simply want Black and White at 90 dpi, supported by most fax software. Best of all, Canon offers a full range of models with this remarkable functionality. They are the BJC™-50 and BJC-80 portable printers, the BJC-4310SP and BJC-4650!

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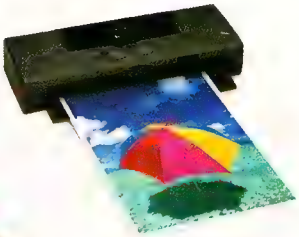
If you would like to learn more about how to get your printer to input as well as output, call us on 1 800 021 167.

The BJC-4310SP with PhotoRealism.

The portable BJC-80.



The even smaller, portable BJC-50.

The BJC-4650 for Windows and Macintosh and sizes to A3.*

Optional scanhead – just $149RRP

Canon

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CS6020

What I am really writing about is to add comments to the letter written by Colin Kangas in the May 99 issue (*Inkjet robbery*, p42) and that's the ridiculous price of printer cartridges. I have an Epson Stylus 600 and enjoy fantastic output, but the joy is cut short when I have to fork out about $88 to purchase another set of black and colour cartridges.

I was so upset at the price that recently I tried a clone brand (which will remain anonymous) in an effort to cut costs, only to be very disappointed. The clone cartridge bleeds all over the paper, doesn't dry as quickly and clogs the nozzles every second sheet. No, I am not an exclusive Epson retailer, but I just thought I'd issue a warning to those thinking of saving a few bucks by going to clone cartridges — it's not worth the hassle. I immediately went out and purchased another set of Epson cartridges.

This may not be the case with all printers, but this is my experience with the Epson.

POWER SHOCKS

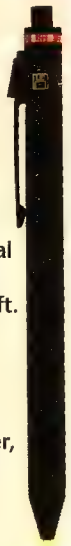
- Christopher Breen

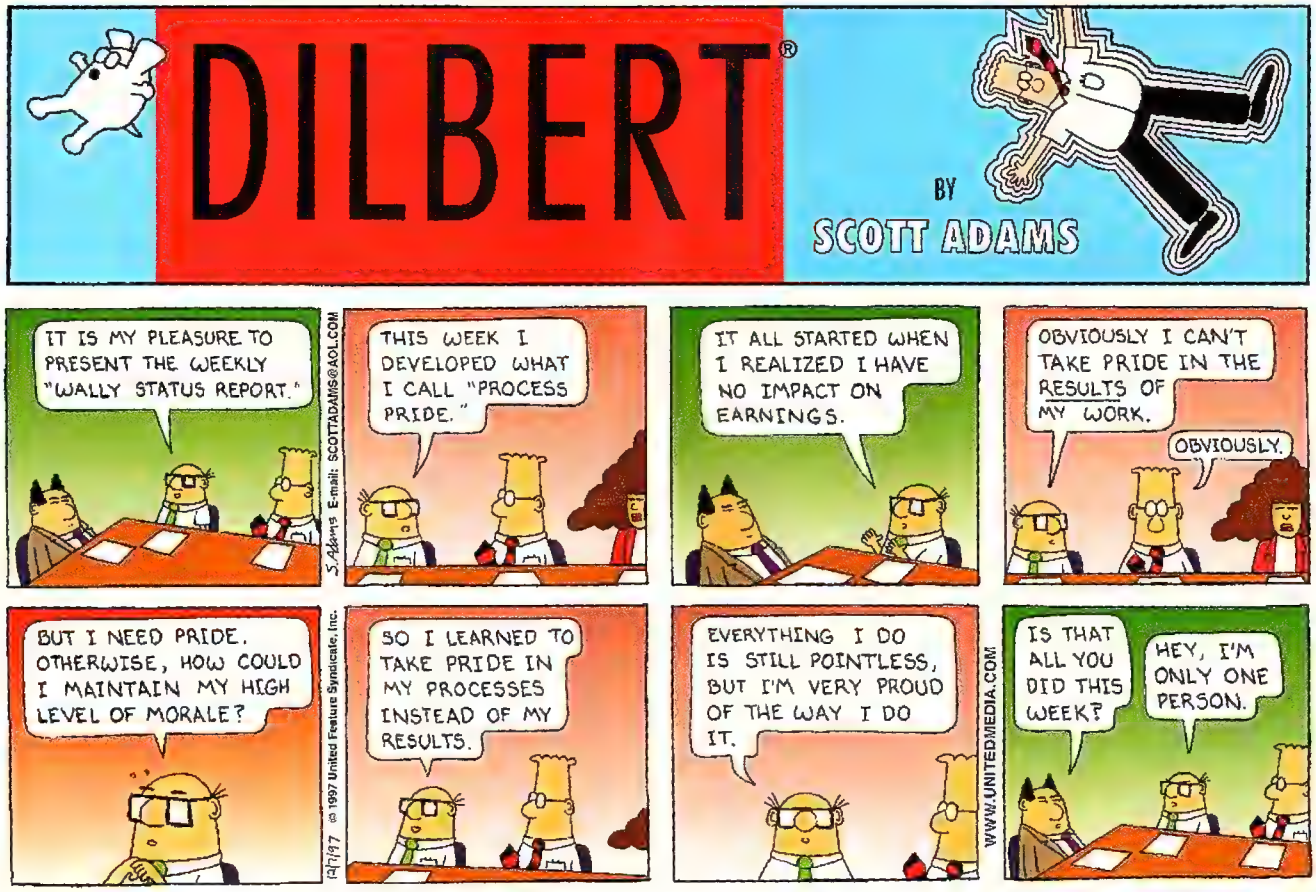
In your article *Install a faster processor* (March 1999, p122) I was shocked to see that one is to "turn off your PC, but leave it plugged into the power point." I bet that line gave your lawyers heart flutters. For the average reader out there, that is a very dangerous suggestion. It only needs a "helper" to knock the power button for the fun to begin. As a computer technician, I agree that there needs to be an earth on the PC, but NOT on a power point. It doesn't even mention turning off the power point! On page 123, *Upgrading a Pentium II-Based PC*, the reader is told not to put the cover back on until everything is working properly. A good idea, except there are some cases that have an earthing point on the cover. The PC, therefore, won't start without the cover. Our amateur upgrader will spend the rest of his life trying to get it to work! It is also possible to distort the earth connector when removing the cover so that when it is replaced, the PC won't work due to the earth connector not connecting (earthing). pcw

MISSIVE OF THE MONTH

Congratulations to Ziggy Malter, who has won a Rotring Quattro Data pen worth $129.90, for his persuasive rebuttal of our columnist's plans for Microsoft.

The Quattro Data has a black ball-point, pencil and fluorescent marker, and works on PC and handheld touch screens.





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- 17" Colour Monitor (15.9" v.i.s.)
- Microsoft® IntelliMouse™
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DELD0129/PCW/MUL

Product Watch

By Molly Furzer

Hardware

DVD GOES PORTABLE

DVD players are now gaining a higher profile in the consumer market, particularly now that video rental stores are stocking movies in the DVD format.

Panasonic's new DVD-L10 will be of interest to those looking into this home entertainment technology, it's a portable DVD player featuring a 5.8in LCD screen, weighing in at 910g.

Pictured above, the DVD-L10's screen utilises TFT active matrix LCD technology, ensuring a wide viewing angle, according to Panasonic.

Speakers are built into the unit, which can play CDs in addition to DVD. Users also have the option of connecting the player to a TV for home viewing.

The DVD-L10 is priced at $3299 and includes a remote control, rechargeable battery and pack, AC adapter, video/audio cable and optical digital audio cable.

Panasonic
Phone: 13 2600
www.panasonic.com.au

35MM SCANNING FROM MINOLTA

The Dimage Scan Speed — a new film scanner from Minolta — has been released, offering dual-film format scanning.

The 12-bit scanner allows users to scan both 35mm sleeved and mounted, positive and negative films in colour and black and white, the company claims. An optional adapter allows for the scanning of Advanced Photo System film.

Priced at $2395, the Dimage Dual Scan features an input resolution capability of 2820dpi. Average scanning time meanwhile, is around 40 seconds for full-resolution, full-frame 35mm colour transparencies, Minolta claims.

A new dual-film format scanner from Minolta

Bundled with the scanner is Adobe PhotoShop LE, and driver software in the form of a Photo-Shop plug-in.

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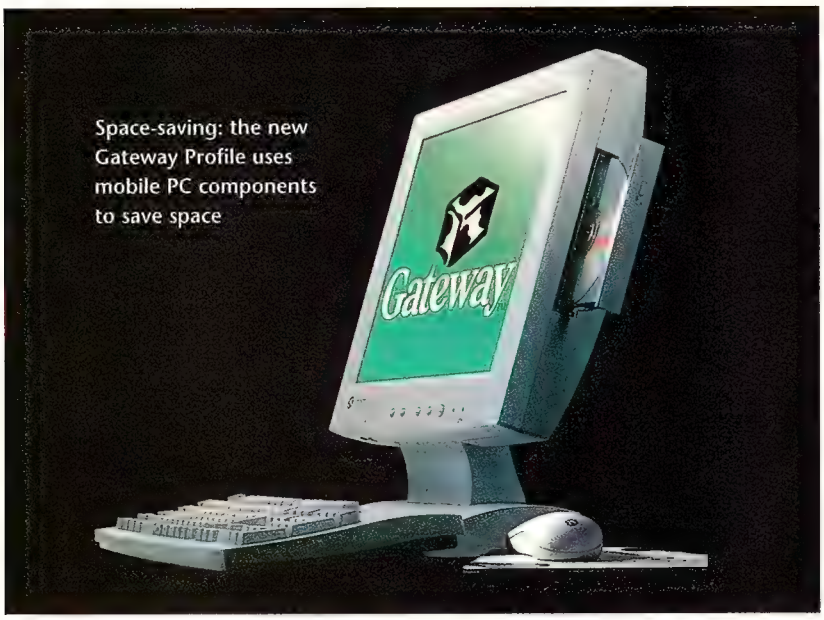


Space-saving: the new Gateway Profile uses mobile PC components to save space

GATEWAY ALL-IN-ONE

Gateway has released a new all-in-one PC featuring an integrated 15.1in LCD screen and mobile PC components, which allow for its slimline and space-saving form factor.

The Gateway Profile, with pricing starting at $4299, incorporates a 400MHz AMD K6-2 processor, 4.3GB hard drive, 2x DVD-ROM drive (20x for CD-ROMs), 64MB RAM expandable to 256MB, and a 56K modem. A 10/100Mbps Ethernet controller is also included for networking.

Gateway
Phone: 1800 500 742
www.gw2k.com.au

SONY CD-RW

Sony has added a new CD-R drive to its lineup: the $849 CRX120, which includes CD-RW capabilities.

The CRX120 writes at 4x, and reads CD-ROMs at 24x.

According to Sony, a full 74-minute audio or 650MB data disk can be written to CD in less than 19 minutes.

The company also claims that CDs can be written, erased and rewritten up to 1000 times "at the full 4x performance level".

The drive features a Tray Load and fits into a standard 5.25in half height slot, allowing users to replace a CD-ROM drive with the CRX120.

The drive has also been designed to connect to an ATAPI IDE interface, an interface card which is commonly already built into PCs, saving users the cost of purchasing an additional card, says Sony.

Sony
Phone: 1800 226 429
www.sony.com.au

BIGGER SCREENS, SMALLER FOOTPRINTS

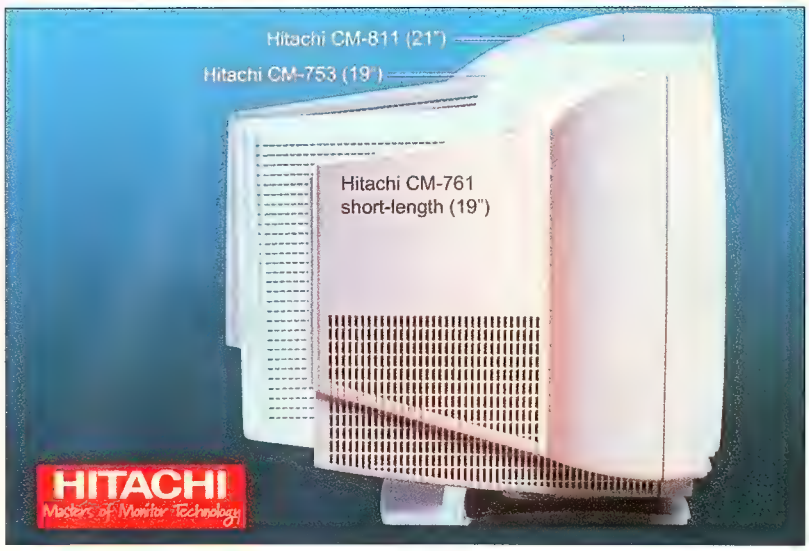
Hitachi has released the first model of its new family of large screen (and small footprint) monitors, the Hitachi CM-761.

Hitachi claims the CM-761 has the smallest foot-print for a 19in monitor, in the world. According to the company, the new monitor features a rear case dimension of 395mm, some 60mm less than most other 19in monitors.

The monitor is the first to incorporate Hitachi's Short Length Tube technology. It also features a flat, high contrast screen and offers viewing at a resolution of up to 1600 x 1280dpi.

Plug and Play compatible, the CM-761 is priced at $1495. At an additional cost, the monitor can be fitted with a USB hub module with four downstream and one upstream port.

Hitachi
Phone: (02) 9888 4100
www.hitachi.com.au



The size of Hitachi's new CM-761 compared to two of the company's previous 19 and 21in monitors

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EPS 0320 The HALE Agency

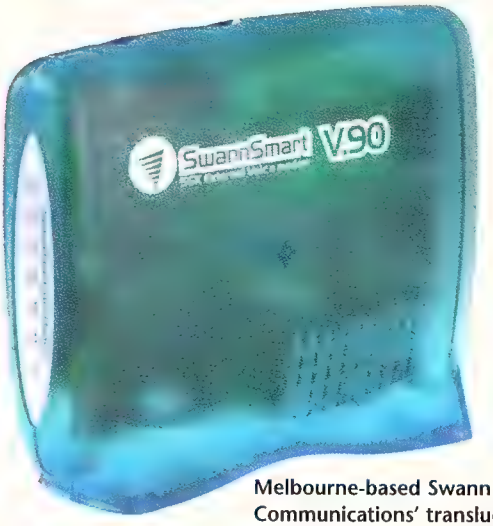
SWANN NOW IN BONDI BLUE

Melbourne-based modem manufacturer Swann Communications has released a new version of its 56K modem, featuring a translucent casing in "Bondi Blue" — similar to the original iMac casing.

The SwannSmart 56K external voice modem features fax and answering machine capabilities and retails at $210. Users may also purchase the modem with optional full duplex speakerphone capability.

Bundled with the modem is WebWorks99 — a CD-ROM featuring Internet-related information such as a beginner's guide to the Internet, a modem installation tutorial, a searchable Australian ISP listing and Internet software and games. WebWorks99 normally retails individually at $49.95.

Swann Communications
Phone: (03) 9421 2811
www.swann.com.au



Melbourne-based Swann Communications' translucent 56K modem

LEXMARK LAUNCHES NEW LASER

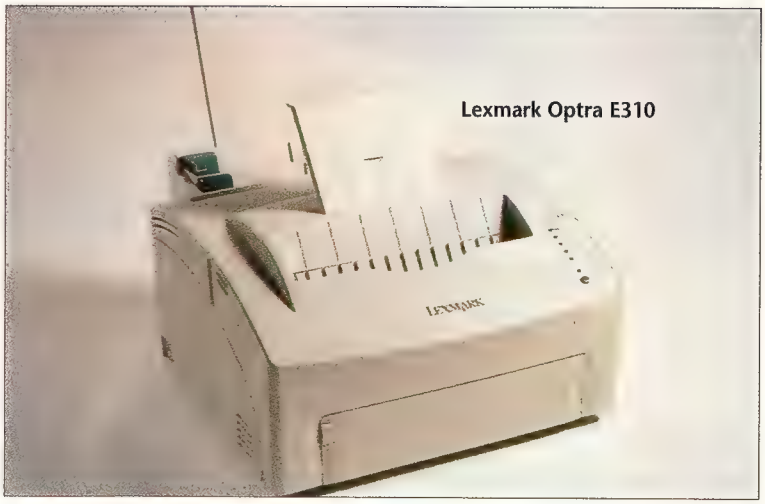
Lexmark has released a new business-class laser printer with an RRP under $1000.

The Optra E310, which has a $927 price tag, provides 600 x 600dpi resolution and 8ppm printing. Featuring a compact form, the Optra E310 includes standard USB support for Windows 98, a 5000-page toner yield and a number of modes to save power and toner, according to Lexmark.

The printer is fitted with standard PostScript Level 2 and PCL 6 emulation, in addition to 2MB memory and a 67MHz processor, says the company.

Lexmark also claims the Optra E310 has a duty cycle of 10,000 pages per month. (See review on page 104.)

Lexmark
Phone: 1300 362 192
www.lexmark.com



Lexmark Optra E310

BE A WIZARD WITH WORDS

Do you constantly find yourself skipping over those big words in the newspaper? The pen-like Quicktionary D-FINE Oxford may be the thing for you.

Incorporating a scanner, OCR engine and a linguistic database containing the Oxford English dictionary, the Quicktionary D-FINE Oxford provides definitions, usage examples and idiomatic expressions for more than 400,000 words, claims its maker, WizCom Technologies.

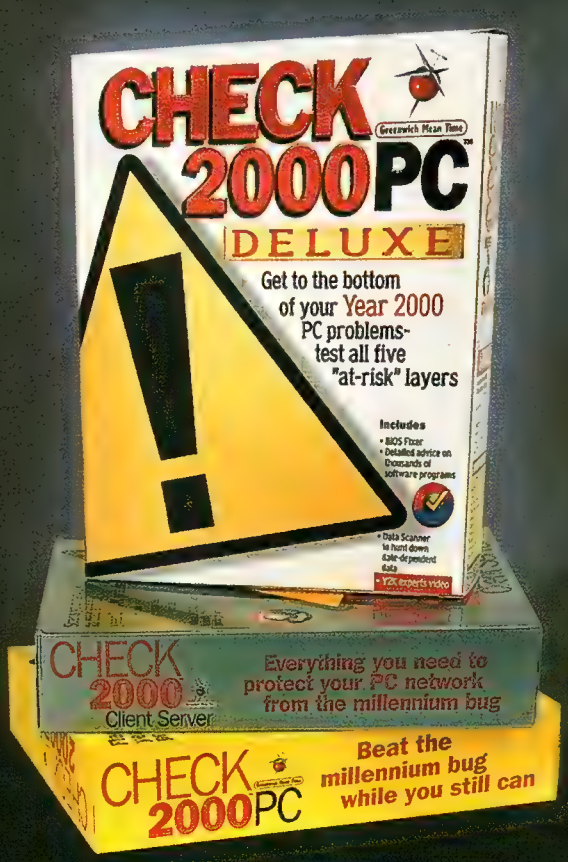
Users simply drag the pen-shaped tool over a word and in seconds the word is scanned and its dictionary listing displayed.

The Quicktionary D-FINE Oxford is priced at $289.

WizCom Technologies
Phone: 1800 09 2000

WizCom Technologies' digital dictionary tool

1970'S BUG CATCHER



Y2K'S BUG CATCHER

Dealers welcome.
Please contact Ian Devlin on
(02) 9900 5360 or iande@gmt-2000.com.au

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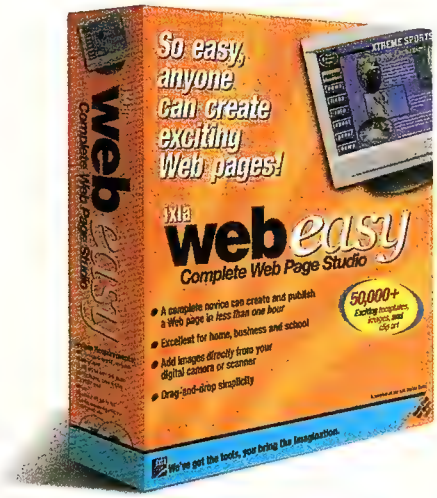
Software

IT'S WEB EASY!

Australian made and ranked as the fifth best-selling Web authoring PC application in the US during January and February this year (by market research firm PC Data), Ixla Web Easy is a template-based tool aimed at novice users.

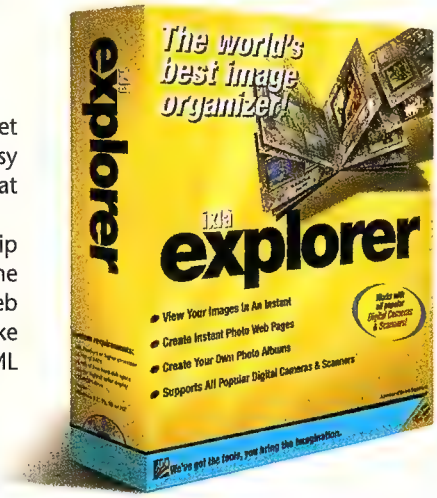


More than 50,000 templates, clip art and images are included in the package, which lets users create Web sites using "Assistants" — a wizard-like interface that masks any hint of HTML programming.

Users have the choice of bypassing the Assistants and going free-form with drag-and-drop. Ixla Web Easy is priced at $89.

Ixla has also developed its own version of a file explorer, Ixla Explorer ($39 RRP). Aimed at home users who need a tool to manage their image files, Ixla Explorer creates thumbnails of all images stored on a hard drive and offers a cataloguing function.

Users can create a photo filing system and include keywords or descriptions. Ixla Explorer's interface includes a number of buttons allowing for a quick search, slideshow or conversion of file formats. The tool also simplifies the process of exporting images to a Web site, the company claims.



Ixla
Phone: (03) 9803 1600
www.ixla.com

FIX-IT UTILITIES 99

A new software utilities vendor has entered the Australian market with the arrival of Fix-It Utilities 99, developed by Colorado-based Mijenix.

Fit-It Utilities 99 is for Windows 95, 98 and NT, and includes a range of tools for crash protection, anti-virus protection, hard disk repair and Windows Registry cleaning.

Additional tools for system monitoring, disk defragmentation and PC diagnostics (which tests hardware such as memory and the CPU), are also included.

The package has an estimated street price of $89.95, and includes another Mijenix product — PowerDesk Utilities 98. PowerDesk Utilities normally retails at $59.95, says its distributor Software Suppliers, and provides a file manager with built-in zip and unzip, file security, folder synchronisation and an "enhanced file finder".

New to the Australian market, Fix-It Utilities 99 includes a number of tools for keeping your PC running shipshape

Software Suppliers
Phone: (02) 9888 1955
www.mijenix.com

TEACHING BY PROXY

Aimed at teachers in computer labs of schools and tertiary institutions, Funk Software's Proxy Classroom is a piece of software that allows for screen monitoring and broadcasting to a network of PCs.

Proxy Classroom includes an "Instructor Desktop" where the teacher can monitor each student's PC (and take control if need be), and "Host" software, for the PCs of students.

The Instructor can broadcast their own screen or a student's screen to the classroom in real time. A feature called "Pass the chalk" enables a Host PC in the classroom to control the screen that is being broadcast.

Proxy Classroom runs via a central Gateway server (which runs on Windows NT 4.0), whilst the Instructor and Host software runs on Windows 95 or NT.

Pricing starts at around $500 for one Instructor seat and one Host seat, and can be as low as $20 per Host seat for larger licences, said its distributor, Logical Connections.

Logical Connections
Phone: (02) 9499 3222
www.logical.net.au

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FUNNEL WEB UPGRADES, LAUNCHES INTO UNIX

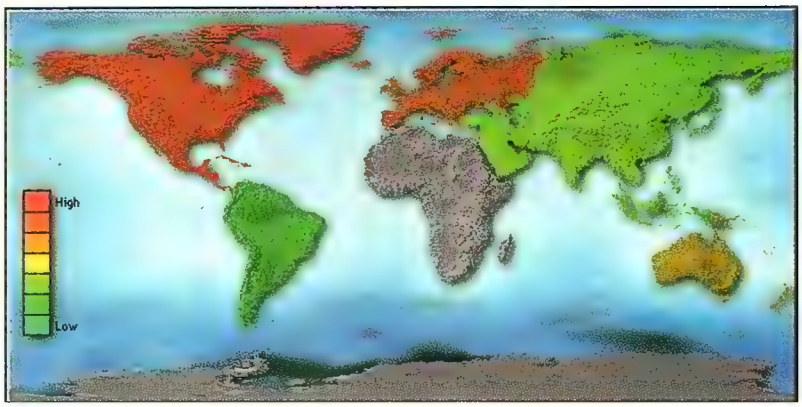
The Australian-developed Web analysis tool Funnel Web has been upgraded to version 3.1 and now extends to the Unix platform.

Developed by Melbourne-based Active Concepts, Funnel Web is billed as "a professional multiplatform Web analysis solution for the business, eCommerce and education markets".

According to Active Concepts, the new upgrade brings four new reports to Funnel Web:

- Top Directory Listing, which breaks down the subdirectory accesses by top level.
- Download History, which details each download.
- Keyword by Search Engine, which reports on the top keywords used to find your Web site.
- Error History, which provides a detailed log of each error, and assists in pinpointing problems.

The upgrade also brings a 1000 per cent speed increase in DNS resolution and an overall speed increase of 10 per cent, claims the company.



A report by Web analysis tool Funnel Web

Funnel Web 3.1 is available for Windows 95, Windows 98, Windows NT, Unix and the Mac OS.

A free upgrade to registered users of Funnel Web 3.0 is available at Active Concepts' Web site, whilst pricing for a full version of Funnel Web 3.1 is $380 ($US249) for the standard edition and $765 ($US499) for the professional edition.

Active Concepts
Phone: (03) 9348 2122
www.activeconcepts.com

TURBOCAD GETS WEBBY

The latest version of IMSI's TurboCAD features integrated Web browsing, the company has announced.

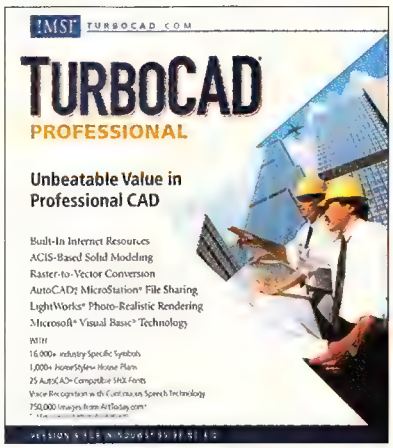
Two new upgrades of TurboCAD have been released — TurboCAD version 6 ($199) and TurboCAD Pro version 6 ($599).

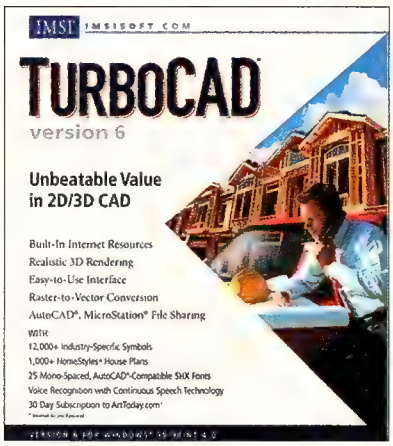
The new Internet enhancement connects users of the program to IMSI's TurboCAD site (www.turbocad.com), which provides CAD-related content, technical assistance and file hosting, according to IMSI.

New features of the standard version of TurboCAD 6 include a streamlined Microsoft Office-style interface, a self-healing wall tool, improved paper space and associative blocks, the company claims.

The professional version, meanwhile, contains all of the standard version's features plus ACIS modelling technology Lightworks Radiosity, an integrated database, Visual Basic for Applications and 25 distinct file formats.

Bonus content for the professional version includes more than 16,000 CAD symbols, more than 700 3D symbols and more than 1000 house plans. pcw





Two new versions of IMSI's CAD program TurboCAD have been released

IMSI Australia
Phone: (02) 9319 7533
www.imsi.com.au

VIEW GRAPHICS AT HIGH SPEED

Sydney-based Paul de Leeuw Computers has released version 3.10 of Paul's Graphics Viewer.

The $28 program (available at the developer's Web site: www.users.bigpond.com/pdeleeuw), is a "high-speed 32-bit Windows program" for viewing graphic files.

The viewer displays image files in various sizes (which can be resized by dragging), can create slide shows and can take screen shots. The program also includes filters for effects such as sharpen or blur, and allows for image cropping and colour manipulation.

Paul de Leeuw Computers
Phone: (02) 9713 6064
www.users.bigpond.com/pdeleeuw

This new 9 x 12 size, just ideal for video editing, it comes with Intuos pen and a 4D mouse giving you control over rotation while simultaneously using the Intuos pen.

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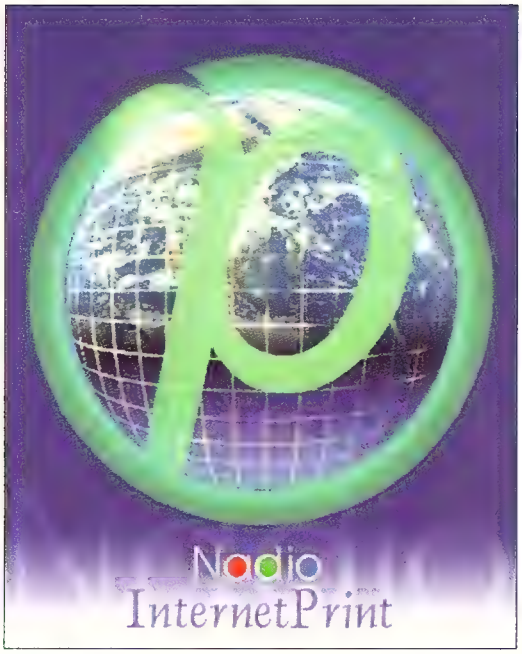
First Looks



PRINT ANYWHERE, OVER THE INTERNET

Say goodbye to faxes, e-mail attachments and overnight express services. Now there's a faster, easier and cheaper way to deliver attractive, high-resolution documents to just about any remote location.

With the new InternetPrint utility from Nadio, you can print documents on a remote printer over the Internet. It's just as easy to send a printout from Melbourne to Darwin as it is to send one to a shared printer on a LAN.

The InternetPrint concept can solve a lot of the problems associated with other methods of document delivery. It's much faster and cheaper than express mail, it avoids the attachment-size limitations and viewing problems of e-mail, and it's cheaper than faxing if the document has to be sent long-distance.

All that's required is that PCs on both ends of the transmission have an Internet connection and the InternetPrint software installed and that a printer is hooked up on the receiving end. Then the drill is simple: print your document from any word processing, graphics, spreadsheet or other application, specifying the destination PC and InternetPrint as the "printer".

I tested a beta version of InternetPrint by installing it on a networked system connected to an ISP through a high-speed line at one location and on a home office PC connected to another ISP through a 28.8Kbps modem about 48 kilometres away. (Greater distances should not substantially affect InternetPrint's performance.) We were soon sending various documents back and forth to monochrome and colour printers at either end — with printouts appearing in just a few seconds.

How did these documents get there? When printing a document to InternetPrint, you are connected to the InternetPrint server, which queries your recipient's PC to see if it's online. If it is, the server immediately directs the print job to the recipient's printer. If the recipient is offline, the server gives you a choice: you can either store it on the InternetPrint server for later delivery or e-mail the document as a self-extracting .exe print file that needs only a double-click to print.

Essential to the convenience of InternetPrint is Nadio's Universal Printer Driver, which is based on the Graphics Device Interface language built into Windows. The GDI driver allows you to send documents to any remote printer without first acquiring a specific printer driver. I was sceptical, of course — but try as I might, I encountered no driver glitches. The only real downside to Nadio's driver is that you don't get detailed information and alerts to inform you of paper jams and toner status on the remote printer.

InternetPrint also addresses security issues. You can set password protection to prevent unauthorised access to shared printers and designate which printers in your office can be shared by other InternetPrint users. Moreover, other InternetPrint customers (or crafty advertisers) can't indiscriminately search for others on the InternetPrint network to command use of shared printers — they must have the other user's InternetPrint log-on name and password.

The real proof of InternetPrint's competency is in the printouts. I was impressed with the results, and I printed everything from word processing documents to high-quality, full-colour graphics. And the software is a snap to use. If you do lots of hard-copy collaboration by long-distance fax or overnight express, the $US79 version of Nadio InternetPrint — which includes licences for two systems — could quickly pay for itself.

If you just want to try out InternetPrint, download the shareware version, InternetPrint Lite 1.0 — it lacks some of the features of the full version, and automatically adds a cover page (which may include an advertisement) to each print. But it's a small price to pay for easy remote printing.

- Richard Jantz

InternetPrint
Price: $US79
InternetPrint Lite 1.0
Price: free
www.nadio.net

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Cornerstone

ORB DRIVE

Castlewood's new ORB drive uses cutting-edge magnetoresistive (MR) head technology to provide a large-capacity, high-speed, removable storage device at an incredibly low price. There are currently four permutations of this drive — internal and external SCSI and EIDE, plus a parallel port version. There are two more variations to come, which will implement USB and FireWire technology respectively. With a formatted capacity of over 2GB per disk, the uses for the ORB drive are almost endless.

We tested the internal EIDE model. Installation is relatively straightforward — the drive simply connects to a spare IDE connector inside your PC as either a slave or a master depending on your configuration. The ORB disks are similar in size and weight to Zip disks and are inserted into the drive in an "in and down" motion. Once up and running, you can install the ORB Tools, which come on the included ORB disk. The Tools software features utilities which allow you to partition and format disks, back up and archive files, duplicate disks as well as allowing you to set the drive as either a fixed or removable disk. Setting the drive up as a fixed disk disables the Eject feature in the software, but still allows the user to eject the disk via the eject button on the drive. You have the option to format the disk using either the FAT16 or FAT32 file systems, but FAT32 will give a slightly larger formatted capacity. Partitioning and formatting the disk takes almost no time at all and you also have the option to create a system disk if you would like to make the ORB bootable.

The drive has a spin speed of 5400rpm so data transfer rates to and from the ORB drive are very quick, making it suitable for audio as well as video applications. We tested this on a Pentium II 300 with 32MB SDRAM, a 4.3GB EIDE hard drive and an i740 graphics card with various MP3 files and movie files, and the ORB didn't miss a beat or drop a frame. A 1.33GB file transfer to the ORB drive from the hard disk took 19 minutes while that same amount of data from the ORB drive to the hard disk took just over 6 minutes.

The ORB is almost half the price of other drives in its class. The internal EIDE unit costs only $399 and you get one disk with it. Subsequent disks will cost you around $79.

- Elias Plastiras

ORB Drive
Castlewood
Price: $399
Distributor: Business Bits
Phone: (02) 9279 2420
www.bbits.com.au

AUREAL VORTEX2 SOUND CARD

If you're looking for a sound card that can do just about everything pertaining to audio then you need look no further than Aureal's Vortex2 SuperQuad Digital PCI sound card.

The Vortex2 is a full-duplex 16-bit card, which features a 48kHz sampling rate for recording and playback. It has a 320-voice wavetable synthesiser with 64 of those voices being hardware-based. Bracket connections include a line-in jack, microphone jack, two line-out jacks, game/midi port and S/PDIF digital output, while internally it contains connections for CD input, auxiliary input, modem input/output and a wavetable upgrade connector.

One of the most impressive features of the card is its 3D capability. It utilises Aureal's A3D 2.0 engine to replicate sound the way we hear it in real life. For example, if you're playing Need For Speed III and you're about to pass the waterfall in the Atlantica track, you will hear the waterfall coming up in front of you on the right side, and when you've passed it you will hear it behind you and fading away. And it can achieve this effect through only two speakers or a set of headphones. Games that support the A3D standard, such as Unreal, provide a feeling of immersion, as sounds can be heard all around, and not just in front of you. As well as providing support for the A3D 1.0 and 2.0 standards, the card is compatible with Microsoft's DirectSound, DirectSound 3D, DirectInput and DirectMusic, and also provides legacy support for older games.

The card is DVD-ready as it provides complete support for Dolby Digital (AC-3) via the digital output jack located on the mounting bracket. The sound can be controlled via the hardware-based graphic equaliser, which allows you to adjust up to 10 bands for each channel and also contains five preset modes if you don't want to manipulate the sliders yourself. With a frequency range of 20Hz-20kHz and a signal-to-noise ratio of 95db, the Vortex2 generates excellent sound quality and, even at maximum volume levels, background noise is barely audible. Support for 4-speaker configurations is also provided via the two line-out ports, and the levels of the front and rear channels can be easily adjusted via the software interface.

The Aureal Vortex2 SuperQuad Digital PCI sound card sounds so good it almost eliminates the need for a stereo system. The only extra you'll need is a great set of speakers or headphones.

- Elias Plastiras

Vortex2 SuperQuad Digital PCI Sound Card
Aureal
Price: $199
Distributor: Ocean Office Automation
Phone: 13 2286
www.ocean.aust.com

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KUR-0738-UK

AUTOCAD 2000

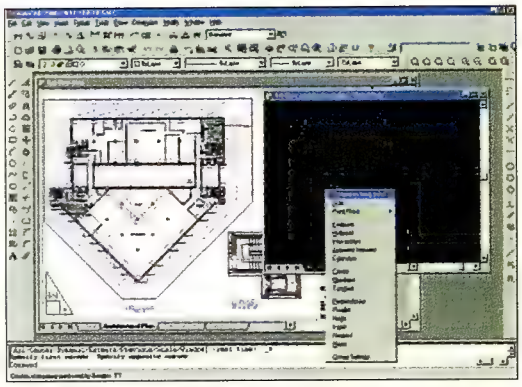
AutoCAD 2000 is a natural progression of the work initially started in AutoCAD release 13 and fine-tuned in release 14. Users will find the new version packed with subtle improvements but with a familiar look and feel. So how would an upgrade benefit you?

A great deal of work has been done on the user interface. The first and most noticeable change is the Microsoft Office compliant toolbars, which give the product a more modern face. Many of the dialogue boxes have also been redesigned, greatly improving the ease of use.

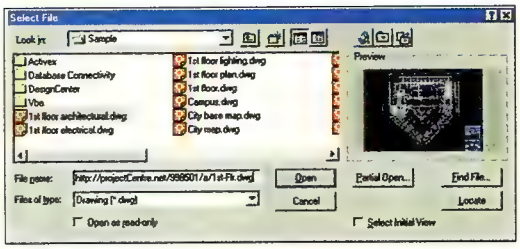
Finally AutoDesk has included a multiple document interface. This feature has been a long time coming and enables a number of AutoCAD drawings to be opened within the AutoCAD window at any time. AutoDesk calls this the Multiple Design Environment (MDE). This feature is an immense productivity boost, simplifying the process of working with a number of related files. You can drag and drop items between windows, have different views, different UCSs (user co-ordinate systems) in each viewport, and use the new 3D Orbit feature for high-performance real-time rotation of a rendered model.

A number of enhancements have also made the product more WYSIWYG. You can now draw lines using a set width, rather than relying on colour to plot the width. Each drawing now includes a number of tabbed views, much like sheets in Excel. The first tab is model space. The other tabs are user-defined paperspaces where you can now easily create multiple plot layouts with viewports of any shape. Note that the plot settings are now stored with the file, making it much more portable.

The right mouse button now displays context sensitive pop-up menus. This reduces keyboard entry, and makes the software easier to learn now the appropriate actions are available at any time with a right-click. Microsoft's IntelliMouse is also supported. The wheel performs real-time pan and zoom, and is surprisingly easy to become dependent on.



AutoCAD 2000 finally supports a multiple document interface



Files can now be opened and saved over the Internet

The AutoSnap feature introduced in release 14 has been enhanced and incorporated with AutoTracking. These features simplify selecting points and reduce the need for construction lines, making the process faster and more intuitive.

A new Internet Explorer-like tool called Design Centre provides a browser with which you can search for AutoCAD files, or entities within a file. You can copy entities from one file to another without even opening the other drawing — great for block libraries.

Partial Loading extends the Demand Loading functionality from release 14. When a drawing is opened only the requested data from the file and its reference files is loaded. This greatly reduces the load time, regeneration time and memory usage. Unfortunately, a partially loaded reference file is locked, which probably makes this feature unusable in a team environment.

A major productivity boost is found in the new In-Place Reference Editing feature. You can now edit a reference file within your file — you do not need to open the reference file separately, modify it and reload it. On large projects which often rely heavily on sharing data through reference files, this feature alone could justify an upgrade.

AutoCAD 2000 includes a number of Internet enabling features, including a built-in browser. The ability to open, save, or reference files over the Internet using URLs (Uniform Resource Locators) is very impressive. Project management Web sites such as **www.projectCentre.net** are now available to cater for the concept of a central Web-based filing system, which this new functionality accommodates. It may be a while before everyone has the bandwidth to utilise this type of "virtual project", but there certainly seems to be a trend towards it.

The ability to create electronic versions of plots in the DWF (drawing Web format) has been enhanced with the new ePlot command. This now provides a compact file, easily published over the Internet, from which anyone can reprint a drawing.

AutoCAD 2000 continues to build on its strong technical background, and provides any user with a number of enticing new features. I may need to reserve judgment on a few of these until I have given them a thorough workout in a real world environment, but on the whole AutoCAD 2000 is very impressive. Individuals will want to upgrade for the improved user interface, while corporate users will appreciate the productivity gains, but I am sure everyone will want AutoCAD 2000.

- Paul Hemmings

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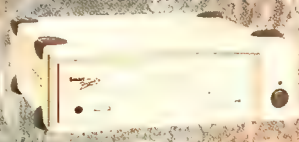

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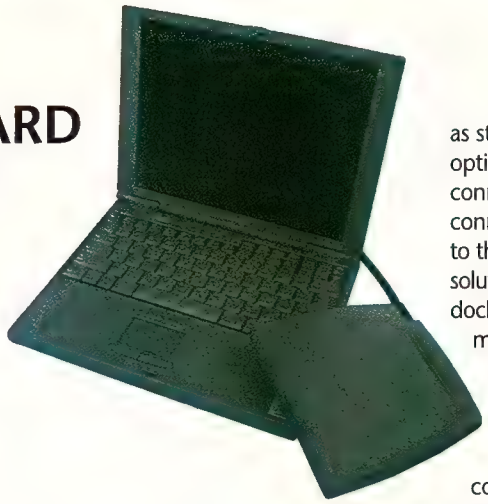

Hewlett Packard's OmniBook 900 notebook weighs a feathery 1.79kg while packing a heavyweight Intel Pentium II 366MHz mobile processor. The 900 is physically the smallest of the OmniBook series, but hidden within its confines is a 6.4GB hard drive, 32MB RAM and a 2.5MB AGP graphics adapter to display its wares on the 12.1in SVGA TFT screen.

HP has designed the 900 to please the travelling executive *and* his or her IT Manager. Our sample shipped with Windows NT version 4.0 and HP TopTools management software designed to streamline procedures and maintenance while keeping down the total cost of ownership. Other features include 2.5hr battery life and a recharge feature that sees your battery get back to 80 per cent capacity in an hour. It is also the first notebook I have seen that features both touchpad and pointing-stick mouse controls. Remarkably, despite its lightweight, slimline form-factor, it has a keyboard that even Chewbacca the Wookie could use. It also ships with infrared and USB connectivity as well as a Kensington Keylock.

Another feature is a notebook-powered external bay that will also share modules such as a floppy, CD-ROM, DVD or LS-120 drive. A 3.5in floppy drive ships with the system as standard while the other drives are optional upgrades. The external bay connects to the OmniBook via a connection on the right-hand side next to the two PC Card slots. Docking solutions include a port replicator, mini-dock or full dock as well as numerous memory, modem and LAN card options available from HP.

Overall the system is solidly built and powered by a lithium ion battery that recharges completely in 90 minutes. The battery, like the hard drive and memory, is user-removable. The OmniBook 900 sells in the above configuration for $6697 and it ships with a 12-month return to base warranty.

- *Spiro Hionis*

OmniBook 900
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KAI'S PHOTO SOAP 2

In a universe of look-alike photo-retouching applications, Kai's Photo Soap stood out for its unusual interface. MetaCreations' Kai's Photo Soap 2 is just as pretty and adds some nifty effects, including access to an online chat room where users share tips. But getting used to the program still takes time and my shipping copy took up a hefty 155MB of disk space.

Kai's Photo Soap 2 is divided into "rooms" — Organize, Clean, Compose, Album and Print — filled with shiny sliding buttons (which made fine adjustments difficult), pulsating icons, and hidden drawers for specific tasks like cropping or rotating images. Unfortunately, it's easy to forget which room contains which tools.

Then again, Kai's Photo Soap 2 helped me create a Web slide show in seconds — no HTML required. You can create a virtual picture book, or a rotatable cube-shaped photo display. You don't manipulate the original images, so you will never make irreparable mistakes. You can remove layered effects with a five-level undo command or a pink eraser.

In all, Kai's Photo Soap 2 can make your pictures sparkle — and help you share them online — with moderate effort.

- *John Goddard*

How'd you do that? Kai's Photo Soap 2 comes with access to an online chat room where you can seek advice from fellow users

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** The new Power Mac G3 has five internal drive bays allowing up to three drives holding up to 36 GB each.*

ACROBAT 4.0 PERFORMS WITH THE NET

Adobe Acrobat, the premier tool for publishing paper documents electronically, swings back into action with its first major upgrade in two years. Acrobat 4.0 thoughtfully emphasises Web tools and workgroup collaboration.

New Web capture and annotation features make it easy to create PDF (Acrobat's ubiquitous Portable Document Format) files from Web pages, or all or part of an entire Web site. Annotation tools let workgroup users document discussions about Web site changes.

Acrobat 4.0's digital signature system controls access to PDF documents. Each time a digital signature is added, the original PDF file is also preserved — useful for approving and tracing online documents.

Gone is the cumbersome PDF file creation routine in Acrobat's Distiller program, which required selecting all sorts of settings. Now you can create a PDF file in seconds by dragging any supported file (Microsoft Office, FrameMaker, WordPerfect, HTML, ASCII text documents and several graphic formats) onto the Acrobat desktop icon. You can still use Distiller buttons to change default settings — for example, to optimise files for screen display or printing. Acrobat 4.0 also lets you create notes without embedding them in documents, a major nuisance in 3.0. And you can now attach a file anywhere in a document — for instance, an Excel file to support a chart.

Niggling little flaws persist. In my preproduction copy, compression on larger files doesn't seem much improved and (my pet peeve) Acrobat still cannot select text properly from formatted columns. Also, you can't view some Acrobat 4.0 PDF files without a (free) Acrobat 4.0 reader. But overall, Acrobat 4.0 merits a standing ovation.

- Luis Camus

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PDF CREATOR

Since its inception, Adobe Acrobat has had no usurpers pretending to its throne. If you wanted to create PDF files for portability across intranets, the Web or e-mail, you had to use Acrobat. End of story.

Now, a British company — 5D — has released an application claiming not only to create PDF files 100 per cent compatible with Acrobat, but also to have more features.

Codenamed NikNak but to be released with the title of 5D PDF Creator, in beta testing it certainly appeared to create PDF files that Acrobat readers had no problem interpreting. Even Word files with complex tables, borders and shading were rendered to PDF without problem.

To create a PDF file using PDF Creator, it is selected as a printer driver from the source application. The destination file name is entered and that is it. Initial testing showed that PDF Creator was in fact slightly quicker than Acrobat at creating PDF files when they were created from Microsoft Office 97 applications.

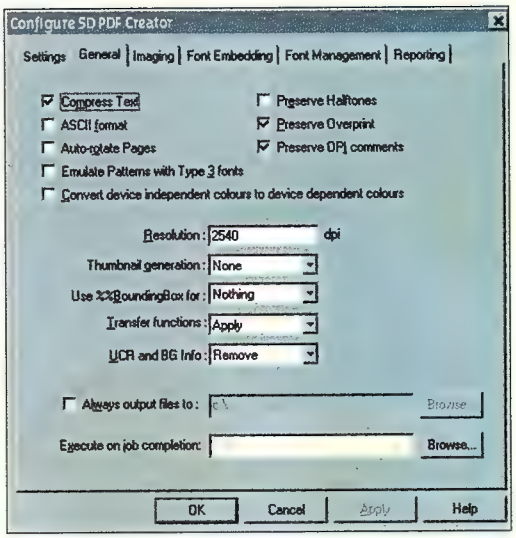
One of the features 5D has incorporated into PDF Creator, that gives it an edge over Acrobat, is the ability to embed fonts into the PDF file. This allows the resultant text to be much sharper at all resolutions as the application can take advantage of fonts on the destination machine if it is available.

Other areas where PDF Creator has refined Acrobat functions include the ability to create both black and white, and colour thumbnails, and blends, which are then converted to images. Plus it is capable of launching another program when the creation of a PDF file has been completed.

Of importance in production printing workflow, PDF Creator supports spot colour handling, preservation of OPI comments, overprint and halftone settings, transfer functions and undercolour removal/black generation information.

PDF Creator is to be launched in Australia shortly, although at the time of publication no distributor had been named. The expected retail price for PDF Creator is approximately $150. 5D PDF Creator will be available for Windows 95 / 98, NT 4.0 and Macintosh 7.6 or later.

- David Hague



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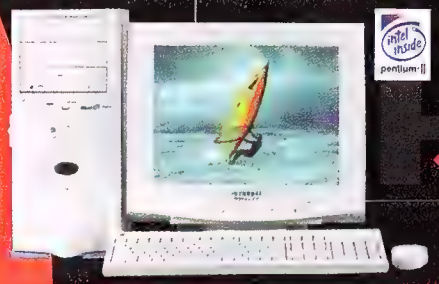

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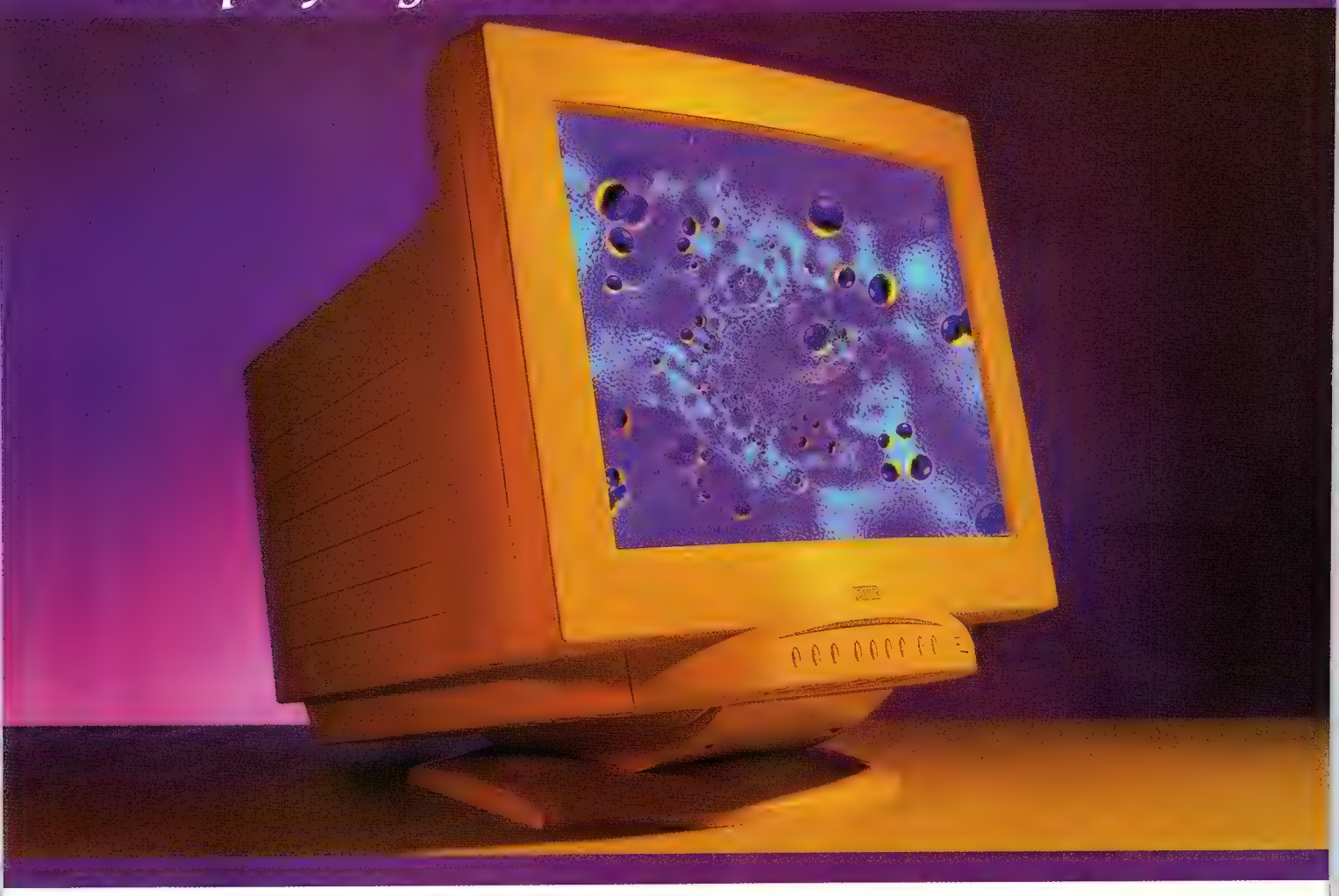

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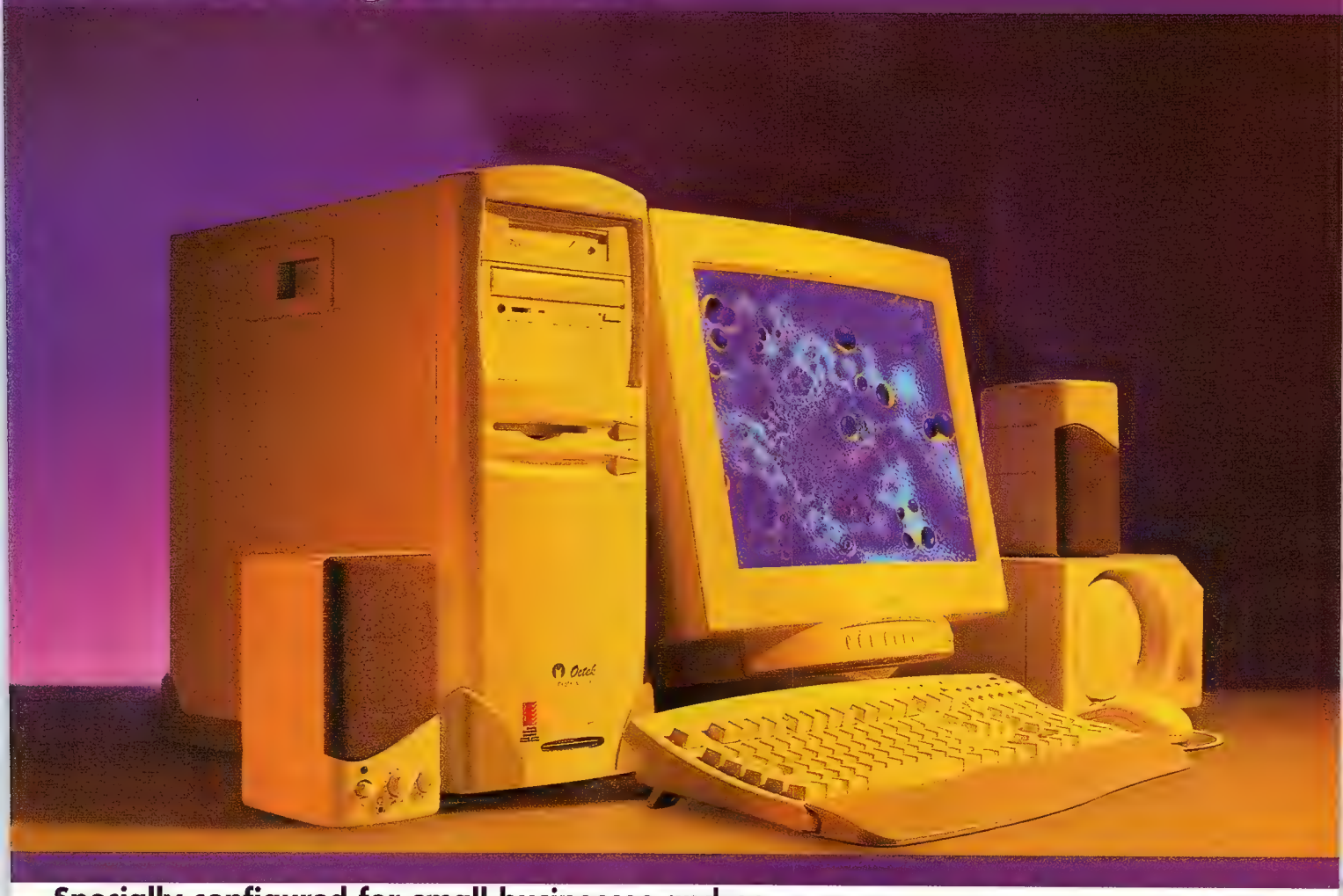

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WHEN A HOAX IS A HOAX

By Scott Mendham

What's worse than the Melissa virus? Probably about half of the e-mail currently circulating the Internet. Why? Because most are pranks, hoaxes, urban legends or scams. (And remember, Melissa went to a maximum of 50 people on your address book — there is no stopping someone from sending an e-mail to thousands of recipients.)

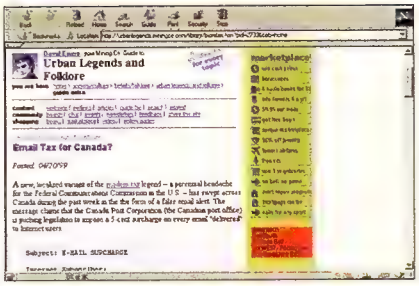
These annoyances can be more irritating than spam, fray e-mail friendships, and even damage the people they are supposedly trying to help, such as "the child dying of cancer" hoax. (One of the cruellest, this e-mail asks people to send an e-mail or 10 cents to a hospital to help a dying child. Unfortunately, it is a hoax and valuable hospital resources are required to filter out all the junk mail.)

The following three sites have all the information you need to determine if your e-mail is real, and range from the amusing and strange to the basic scam. If you're interested, it's also worth using the newsgroup alt.folklore.urban.

Even if you don't visit these sites soon, here is an important piece of advice: if you receive an e-mail and you want to send it immediately to as many people as possible, then it is probably a hoax.

URBAN LEGENDS & FOLKLORE

http://urbanlegends.miningco.com



The best site for quickly revealing e-mail hoaxes: it strongly focuses on the Internet aspect of urban myths. Sometimes it's hard to believe that people fall for many of these myths, that is until you receive an e-mail from a friend swearing that the attached story is true and that if you forward it on to another 100 people, you can all get a free six-pack of VB.

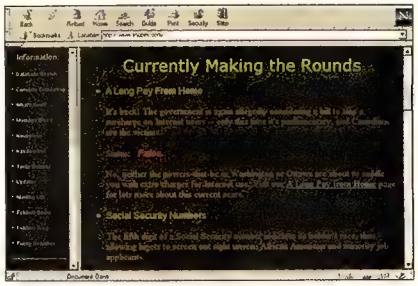
Urban Legends & Folklore has a section dedicated to virus hoaxes, so look it up before spooking your friends (believe me they won't appreciate getting a copy of a 12-month-old virus hoax). The site has a search engine for tracking down the latest hoax, or the oldest urban myth, dusted off, polished and recycled on the Internet.

After you've browsed all the various topics, you can subscribe to the regular newsletter to get a hold of the latest myths before they start appearing in your in-box.

THE URBAN LEGENDS REFERENCE PAGE

www.snopes.com

Almost a shrine to urban myths, this site was probably a significant source of information for the horror flick film *Urban Legend*. All myths, old and new, are represented here, including some very amusing and strange happenings.

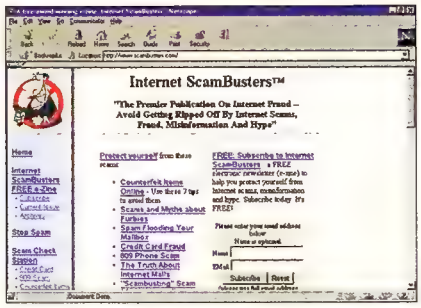


The authors of this site research each myth and grade them as false, true or undetermined. They even attempt to track the history of each story back to when it first appeared, and report variations. After a while, it is not surprising that some people believe myths — the small percentage that prove true can seem just as bizarre as the false ones (yep, there was pornography in an animated Disney film).

The easiest lesson to learn from this site is that the more perfect the structure of the story, the less likely it is to be true.

INTERNET SCAMBUSTERS

www.scambusters.com



This site gets a bit more serious. In addition to talking about the usual myths, legends and hoaxes, it goes into great detail about scams where people are trying to improperly gain information such as your credit card numbers, passwords or other personal details.

I wouldn't give my credit card details to someone who knocks on my door, so I wouldn't do it via the Internet.

Unfortunately, newbies and technophobes are easy prey. Internet ScamBusters shows how to avoid being conned and what to do next. The site also has tips for reducing spam and advice on what to do if your company is being defamed or misrepresented.

It's not all gloom, but if you are ever introducing someone to the Internet, this should be one of the first sites to bookmark. PCW

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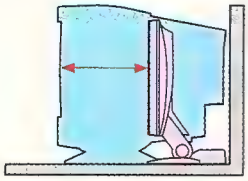
Nothing out back puts us way out in front.

Our advanced LC technology puts our range of flat screen monitors way ahead of the competition. The PanaFlat 15" LC50S, for example, is just one of our monitors which have been awarded with accolades.

It's all part of Panasonic's way of turning small desks into big desks. Or of giving money market operators, for example, more screens on the same desk.



Plus, there's practically no radiation — but that's the beauty of liquid crystal. Of course when it comes to taking up desk space, less does cost more. But it's no more than you deserve, when you get to the top.

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Mind your MONEY on the WEB

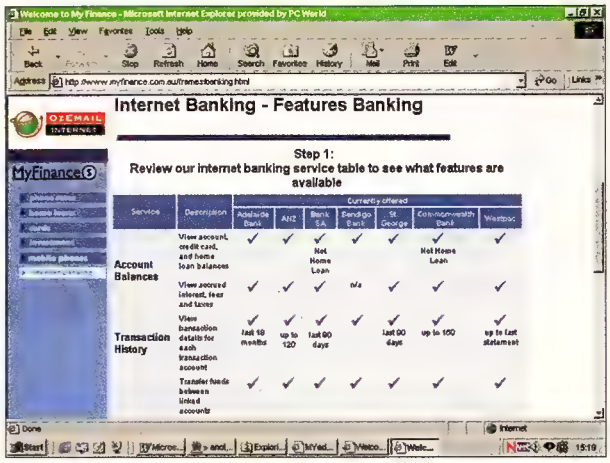
It's that time of the year when it seems as if the taxman and the bank have swallowed all your earnings — but take heart — online financial sites can offer plenty of tools and tips to manage your money into the millennium

By Amanda Conroy

Managing your finances can seem like a full-time job in itself some days. If your pay packet slips though your fingers and you feel like you're only just managing to keep afloat, you are not alone. Even if you are motivated to sit down and work out a budget to get a grasp of your financial outlays, keeping on top of this information can render your planning out of date in a couple of months.

Recently the Internet has grown as a tool for people to manage their finances online. With services ranging from money managers and online loan applications to online trading and financial tips, the excuses for not whipping your finances into shape are diminishing. Let's take a look at some of the financial management tools available in our corner of the Web. While the online products mentioned are far from definitive, they may start you on the road to better cashflow control.

If you're after information on everything from international phone rates to the state of play in Internet banking, one of the first sites to check out is OzEmail's MyFinance (**www.myfinance.com.au**). The site provides extensive background information and will arm you with the tools you need to trim any unnecessary costs and charges. For example, if you enjoy a natter to friends and family overseas, but go into shock when the bill comes in, the international phone rates page will be a saviour. Set out in a table, the Web page indicates the time and cost savings offered by large and small telecommunications companies, and there are a lot of savings to be found.



Keeping abreast of fees, rates and services offered by the banks can often result in substantial savings, especially if you're repaying a loan or credit card debt. MyFinance's home loan tab allows you to review the types of home loans available, with the interest rates calculated on a loan of $100,000 over seven years. The results are then presented in three tables, which are categorised into the cheapest five lenders, the national banks and the main regional banks. If you find information you are interested in, a *Contact Us* button will take you straight to the appropriate institution.

The credit card section also provides comparative information on services, breaking down the category into subsections including credit, charge, loyalty, affinity, gold, store, debit and smart cards. This allows you to cross-section your needs. The page asks you to assess how you pay your card bills — whether you pay by the due date, or carry a balance over to the next month — to assist in determining what card will suit your finances.

A "Specials" page shows at a glance what new services and products are being offered by the financial institutions. At the time of going of press the ANZ, NAB and BankWest were all launching new Internet banking products.

AOL Australia recently expanded its personal investment service for its members in partnership with financial software developer Intuit. The Quicken site (**www.quicken.com.au**) provides a tool predominantly for online broker-

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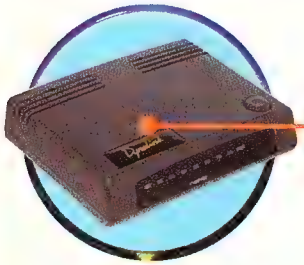

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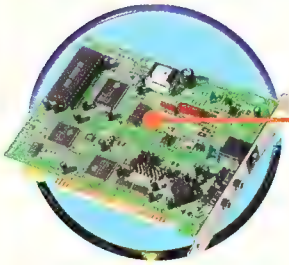

VoiceCard56 Pro

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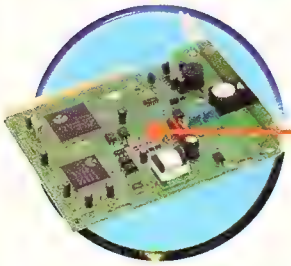

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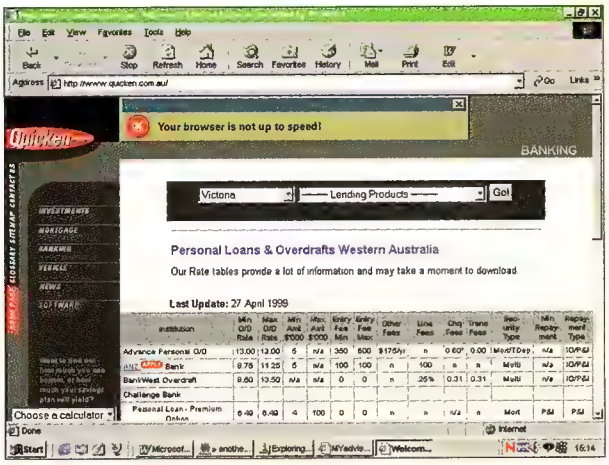
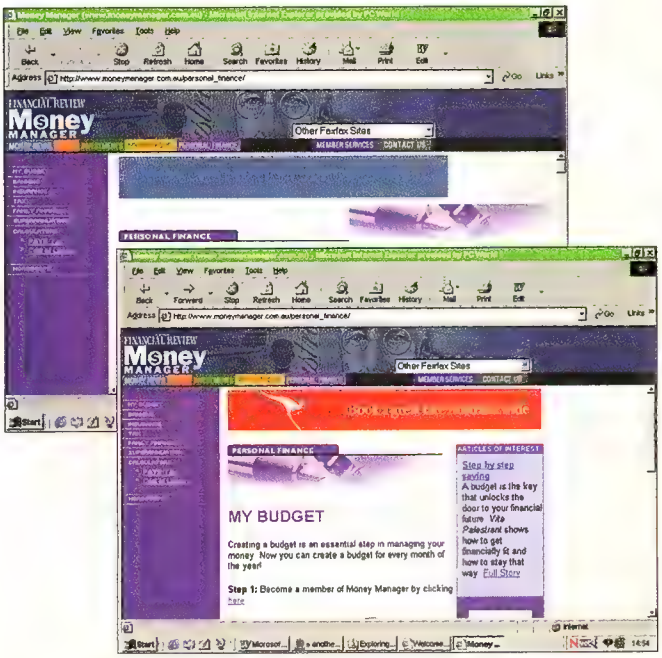
ing, but has expanded to include banking rates including credit cards, deposit and lending rates, as well as information on mortgage rates and vehicle finance.

The site also features regular online chat sessions discussing topics such as taxation, investing in stocks and bonds, the GST, planning for retirement and property investment. Among the financial advisers hosting the chat sessions are James Dunn (*Shares Magazine*), John Raneri (*Investment and Taxation Bulletin*), Michael Gordon (*The Share-market Investor*), and George Cochrane (*Sun Herald*).



Money Manager (**www.moneymanager.com.au**) is a financial planning site set up under the banner of Fairfax publications and primarily promoted through the *Australian Financial Review*. Membership to the site is free and allows you to create your own personalised portfolios to track any shares or managed funds you may have. The personal finance section contains heaps of tips for banking, insurance, tax, family finances, superannuation, plus an outline on how to develop a personal finance plan spanning the whole year. Also included is a *My Budget* page, which allows you to plan monthly budgets online, and calculators to work out your cost of living and PAYE tax. There are also some fee-based facilities offered including share quotes, news profiles, news searches and managed funds product features — searched from the Fairfax publications database. But the site isn't all serious financial planning. For light relief, Money Manager offers a link to Milton Black's money horoscope. So if your cash flow is looking a little shaky, at least you will know what numbers to pick out for the lottery!



The days of donning your Sunday best and waiting in line to see the bank manager may finally be behind us with the increased availability of Internet loan applications. And while plenty of traditional lenders are beginning to provide applications on the Internet, specialty online finance providers have also emerged. One such site is Ewizard (**www.ewizard.com.au**) which has launched an advertising campaign featuring a man stepping out of the shower and heading for his iMac to apply for a loan. The site features online forms, applications and loan information, and is designed to take the legwork and hoop jumping out of borrowing money. But if the thought of submitting your details online is still a little daunting, Ewizard has over ten branches (predominantly, but not exclusively in NSW) from Taree to Melbourne, plus a toll free number to answer any queries.

So you have buckled down and checked out your finances and options on the Net and still want to explore further options to make your money work for you. Well, there's no substitute for professional advice, but it's not always easy to find. Independent Australian financial services group Sealcorp, has devised a site, My Adviser (**www.myadviser.com.au**), specifically to assist in locating financial advisers near you.

Not only is it a nationwide service, offering information on both metropolitan and regional advisers, but it also allows you to tailor your search to specific financial requirements, for example property investment or superannuation. Considering the depth and breadth of information out there, this is a valuable shortcut to finding the financial answers you need. **pcw**

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LEO Scroll Mouse with wheel
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Approach, Freelance Graphics and more

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128mb 100mhz SDRAM
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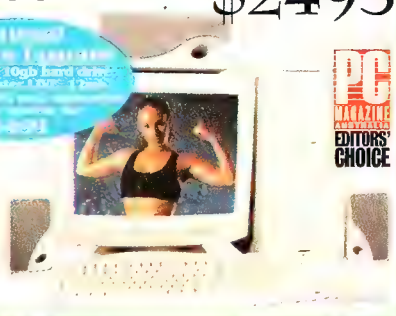
40x CDROM Drive
Creative PCI64 Soundblaster
500w Subwoofer/Satellite Speakers
56k V90 Voice/Data Fax/Modem
LEO 17" Colour Monitor
3.5" 1.44mb Floppy Drive
LEO 104 "EZ Key" Internet Keyboard
LEO Scroll Mouse with wheel
Windows 98, Lotus Word Pro, Lotus 123
Approach, Freelance Graphics and more



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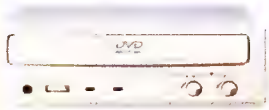

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AUSTRALIAN **pc world**

readers' survey

At PC World, we try to ensure that our editorial content is always informative and entertaining, but we can't succeed without your feedback. Please take the time to complete our readers' survey, either online or by fax or mail.

How to complete the survey

Online

If you have access to the Internet, the simplest way to complete the survey is to visit our Web site at **http://pcworld.idg.com.au** and fill in our online form.

Fax/Mail

If you can't access the Web, you can send us your completed survey by fax or mail:

1. Photocopy the survey and answer all the questions.
2. Fax the survey pages to us on **(02) 9439 9697**.

Alternatively, mail the survey pages to **PC World Survey Competition, PO Box 295, St Leonards NSW 1590.**

survey competition

Win a Colour Multi-Function Centre worth $1099!

To thank you for your participation, we're offering some great prizes. To enter the competition please answer all survey questions including the competition question at the end of the survey.

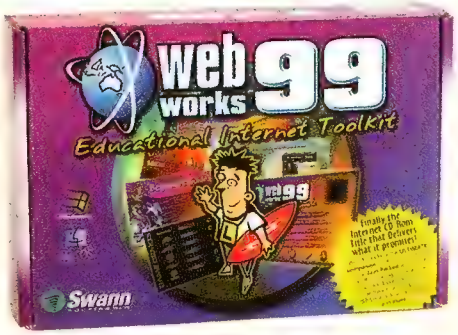
First prize

Brother MFC-7160C Colour Multi-Function Centre

This is an eight-in-one office centre incorporating a plain paper six seconds-per-page fax, plus a colour PC fax that allows you to send and receive faxes using your PC. Full colour printing, digital copying and scanning at 1200 x 1200dpi bring your documents to life. Also built-in is a digital answering machine, with up to 99 minutes of recording time and a hands-free speakerphone and handset. If you're a video buff, you can also print images directly from your camcorder, VCR or digital camera, without a PC. The Brother MFC-7160C Colour Multi-Function centre is priced at $1099.

Runner-up prizes

20 runners-up will each win a copy of Swann Communications' WebWorks99. The tutorial includes a beginner's guide to the Internet, modem installation assistance, a comprehensive Australian ISPs listing and the latest Internet games. WebWorks99 retails for $50.



CONDITIONS OF ENTRY

Instructions on "How to Enter" form part of these conditions of entry. Entry is open to residents of Australia other than employees of IDG Communications, Brother and Swann Communications and their families. The contest closes June 30th, 1999. Chance plays no part in this contest. All entries are judged on accuracy, creativity and originality. Prizes are not transferable or redeemable for cash. The winning entries will be judged on July 2nd, 1999 by the editors of Australian PC World. The winners will be notified by phone and their names published in PC World, August 1999.

readers' survey

How interested are you in the following sections of PC World?
Please circle ONE number for each item (1 = not at all interested, 5 = very interested)

	Not interested				Very interested
1. Comment					
a) Editor's Window	1	2	3	4	5
b) Industry Watch	1	2	3	4	5
c) Down to the Wire	1	2	3	4	5
d) Itchy Feet	1	2	3	4	5
e) Coffee Break	1	2	3	4	5
2. News	1	2	3	4	5
3. Readers' Forum	1	2	3	4	5
4. Product Watch	1	2	3	4	5
5. First Looks	1	2	3	4	5
6. Best Buys					
a) PCs	1	2	3	4	5
b) Notebooks	1	2	3	4	5
c) Personal printers	1	2	3	4	5
d) Network printers	1	2	3	4	5
e) Scanners	1	2	3	4	5
f) Monitors:					
i) 15in	1	2	3	4	5
ii) 17in	1	2	3	4	5
iii) 19in	1	2	3	4	5
iv) LCD flat panel	1	2	3	4	5
g) Graphics cards	1	2	3	4	5
h) Hard drives	1	2	3	4	5
7. Web site reviews	1	2	3	4	5
8. Features	1	2	3	4	5
9. Help Screen					
a) Windows Manager	1	2	3	4	5
b) Windows	1	2	3	4	5
c) Applications	1	2	3	4	5
d) Internet	1	2	3	4	5
e) Hardware	1	2	3	4	5
f) Linux	1	2	3	4	5
g) Newbie	1	2	3	4	5
h) Bugs and fixes	1	2	3	4	5
i) Mac	1	2	3	4	5
10. Upgrader	1	2	3	4	5
11. Backbytes	1	2	3	4	5

12. How interested are you in the following hardware categories?
Please circle ONE number for each category (1 = not at all interested, 5 = very interested)

a) CD-RW drives	1	2	3	4	5
b) DVD-ROM/RAM drives	1	2	3	4	5
c) Handheld computers	1	2	3	4	5
d) Modems	1	2	3	4	5
e) PC Cards	1	2	3	4	5
f) Digital cameras	1	2	3	4	5
g) Multifunction devices (phone/fax etc)	1	2	3	4	5

13. How interested are you in the following?
Please circle ONE number for each item (1 = not at all interested, 5 = very interested)

a) Linux	1	2	3	4	5
b) Macintosh	1	2	3	4	5

14. How useful/interesting do you find the following items on the PC World editorial CD (CD1)?
Please circle ONE number for each item (1 = not at all interested, 5 = very interested)

EDITORIAL					
a) CD-ROM reviews	1	2	3	4	5
b) Games reviews	1	2	3	4	5
c) Help Screen tips archive	1	2	3	4	5
d) Product reviews	1	2	3	4	5
SOFTWARE					
e) Web browsers	1	2	3	4	5
f) Software "Essentials"	1	2	3	4	5
g) Help Screen software	1	2	3	4	5
h) Top shareware	1	2	3	4	5
i) Patches & Packs	1	2	3	4	5
j) Games	1	2	3	4	5
k) Internet access kits	1	2	3	4	5

15. When deciding to buy PC World, how important are the contents of the CD(s) to your decision?
Please circle ONE number (1 = not at all important, 5 = very important)

1 2 3 4 5

16. In addition to the editorial CD that appears on our cover each month, which would you prefer to receive?
Please circle ONE of the following:

a) A bonus CD b) Two bonus CDs c) A gift such as a mouse pad or CD holder d) A booklet containing tips for using PCs or applications

17. How often do you visit the PC World Web site?
Please circle ONE of the following:

a) Very often b) Often c) Sometimes d) Never

18. Do you subscribe to the PC World Daily, our free e-mail information service?
Please circle ONE of the following:

a) Yes b) No

If Yes, how interested are you in the following story types?
Please circle ONE number for each type (1 = not at all interested, 5 = very interested)

News stories	1	2	3	4	5
Product reviews	1	2	3	4	5
Web site reviews	1	2	3	4	5
Help Screen tips	1	2	3	4	5

19. Comments (optional)
Please tell us how we can improve PC World. If you need more space, please append a second sheet.

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20. Competition question
If you won the Multi-Function Centre, what would you do with your old printer, scanner, answering machine and phone? (25 words max). The most entertaining and creative answers will win a prize.

Answer:

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Feature

Pssst, check out our experts' answers to the most-asked questions about Windows 95, Windows 98 and Internet Explorer

ILLUSTRATIONS BY PHILIP KAAKE

Perhaps you have considered jumping in and making the upgrade to Windows 98, but you have also spent many precious years developing your secret arsenal of custom tweaks for Windows 95, and the thought of reconfiguring your operating system is about as appealing as an afternoon at the RTA.

Well, take heart. It's not as scary as it sounds. After all, Windows 98 isn't exactly a brand-new operating system. It's Windows 95 with an improved file system, a dash of speed, a smattering of fixes and updates and tighter integration with Internet Explorer. Windows 98 also offers better customisation, improves hard drive performance and adds a few very useful system tools of its own.

Whether you're going to stick with Windows 95 or upgrade to Windows 98, here are a bunch of tips and tricks for both versions. And if you want it all, we even have tips for running both operating systems on the same machine.

PERFORMANCE
The speed you need

Windows 98 alone doesn't offer huge performance boosts, though it does make applications load faster. As with Win 95, your system can bog down when you have a lot of programs running — and that goes double for Active Desktop items. Here are a few ways to keep things moving.

Q 98 How can I speed up my big, sluggish software suites?

A It's possible to make programs load more quickly — especially those in Microsoft Office — but this won't help them run faster. The Intel Application Launch Accelerator, a tool included with Windows 98's Disk Defragmenter, does the trick for you. This utility arranges the pieces of your most commonly used software on your hard disk in the order they'll load the fastest — a step beyond regular defragmenting, which merely consolidates files into contiguous clusters and doesn't take into consideration when various parts of a file get loaded. Select *Start-Programs-Accessories-System Tools-Disk Defragmenter.* When the utility's opening screen pops up, click the *Settings* button, make sure the 'Rearrange program files so my programs start faster' option is checked and then click *OK*. On the opening screen, click *OK* again and leave your PC for an hour or so while it does the job.

THE ultimate INSIDER'S GUIDE TO Windows

By Tim Boone, Matt Lake, Robert Lauriston and Valerie Ryan

Q 95 98 Does having an Active Desktop slow down my system? If so, how can I speed it up again?

A Active Desktop by itself doesn't cause any performance problems, but the elements you include in it might. Active Desktop consists of three elements, all of which were introduced with Internet Explorer 4.0 and have continued with Windows 98 and IE 5. The first, Web View, turns your desktop into one big Web page with clickable links, which by itself won't slow down your computer. The second feature allows you to add active items — such as HTML code or JavaScript tickers — to your desktop. You can also plant items drawn from the Web onto the desktop and receive updates periodically. Both of these capabilities can put significant drag on your system.

If you suspect a Web site subscription is slowing you down, try changing the update profile of your subscription.

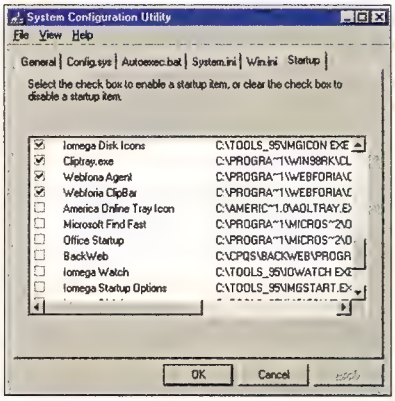
Right-click the desktop, select *Properties* and click the Web tab. Select the item in question and click the *Properties* button.

Under the Receiving tab, you can elect to not have IE update the changed item and instead just tell you, with a pop-up dialogue box or an e-mail, that an update is available. Under the Schedule tab, you can reduce the frequency of updates or turn updates off completely.

You can always update pages manually by right-clicking the desktop and selecting *Active Desktop-Update Now*. In general, we recommend avoiding subscriptions — a much-hyped feature that isn't worth the hassle.

Q 98 The more software I install, the slower my system seems to get. How can I reverse the trend?

A Many applications install little programs that run every time you

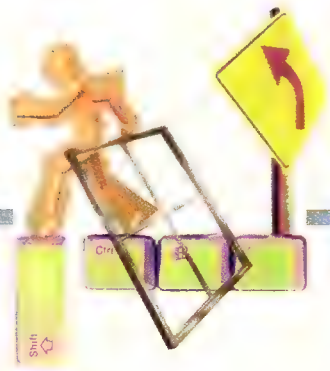


Get rid of pesky start-up programs with the System Configuration Utility

start up Windows, although you can't see them; if you have a lot of them, they slow your system down. Check the contents of your system tray: each icon represents a program that uses at least a few CPU cycles and some system resources and there are many more you can't see. To monitor or turn off these programs, load Windows 98's System Configuration Utility. Select *Start-Run*, enter **msconfig** and click *OK*. In the SCU dialogue box, click the Startup tab and scroll through the list of items for unnecessary tools. These could include monitor programs, scheduling agents and others. Click to remove the check mark next to any you don't want to run. If you change your mind, you can run any disabled start-up item by selecting it from the *Start-Programs-Disabled Startup Items*. To get an item to run at start-up again, return to the SCU's *Startup* tab and reselect the item.

Q 98 How can I regularly scan and defrag a 4GB or larger hard drive without losing hours of productive time?

A Windows 98's all-in-one Maintenance Wizard can automatically run cleanup tools on a schedule you set. Maintenance Wizard can clean up your Start menu, scan for and remove viruses, flush the browser cache and temp folders, check the hard disk for errors, defragment your hard drive and even optimise compressed drives. To schedule a tune-up, select *Start-Programs-Accessories-System Tools-Maintenance Wizard*. To set up a loose schedule, make sure the Express radio button is selected, click the *Next* button and then choose the stretch of time — day, evening, or night — when your system is normally running but you're not working on it. Maintenance Wizard will kick in only when your computer is idle during the period you've chosen.



Shortcuts to success

Mouse hand hurting? Give your wrist a rest. Windows 9x makes good use of keystroke combinations, so you don't need to constantly take your hands off the keyboard. We've provided keystrokes for both a standard keyboard and a "Windows" keyboard, which has two keys with the Windows logo (⊞) and one with a menu icon (☰):

TASK	KEYSTROKES: STANDARD KEYBOARD	KEYSTROKES: "WINDOWS" KEYBOARD
Close active application	<Alt>-<F4>	<Alt>-<F4>
Close active window within application	<Ctrl>-<F4>	<Ctrl>-<F4>
Copy selected item to the Clipboard	<Ctrl>-C	<Ctrl>-C
Cut selected item	<Ctrl>-X	<Ctrl>-X
Delete an item without sending it to the Recycle Bin	<Shift>-<Delete>	<Shift>-<Delete>
Display a "right-click" context menu	<Shift>-<F10>	<☰> or <Shift>-F10>
Display the Run dialogue box	no shortcut	<⊞>-R
Display the System Properties dialogue box (including Device Manager)	no shortcut	<⊞>-<Break>
Find a computer on the network	no shortcut	<Ctrl>-<⊞>-F
Find a file or folder on your PC	no shortcut	<⊞>-F
Minimise all running applications	no shortcut	<⊞>-D (in Windows 95, <⊞>-M)
Open the Start menu	<Ctrl>-<Esc>	<⊞>
Open the Windows Help dialogue box	no shortcut	<⊞>-<F1>
Paste an item from the Clipboard	<Ctrl>-V	<Ctrl>-V
Prevent a CD or CD-ROM from autoplaying	hold down <Shift> while inserting disc	hold down <Shift> while inserting disc
Restore all minimised apps	no shortcut	<⊞>-D (in Windows 95, <Shift>-<⊞>-M)
Start Explorer	no shortcut	<⊞>-E
Switch between running applications	<Alt>-<Tab>	<Alt>-<Tab>
Undo previous task	<Ctrl>-Z	<Ctrl>-Z

Q 98 With several gigabytes of free space on my drive, I'd rather use the biggest clusters possible for maximum performance. How can I do that?

A PartitionMagic lets you resize the clusters of FAT32 drives without disturbing your data. You can also manually set the cluster size to 16KB using the undocumented /z option in Windows 98's command-line format utility. For example, typing **format c: /s /z:32** will repartition the drive into 16KB clusters and install DOS. But be careful — it will also erase all the data on drive C:. You'll need a start-up disk and a backup to restore Windows.

Q 98 Do animated menus impair my computer's performance?

A Windows 98's growing and shrinking menus and windows are a matter of taste — and on slower systems, especially those in which the CPU takes on graphics processing (as Cyrix's MediaGX does), they may slow things down a bit. To remove them, right-click the desktop, select *Properties* and, on the *Effects* tab, look for the check boxes under 'Visual effects'. Uncheck *Animate windows menus and lists* and click *Apply*. If you want really plain visuals, you can also uncheck *Show window contents while dragging* — another effect that might drag down some graphics subsystems.

Q 95 98 I use DriveSpace to get more storage on an older PC,

The key to high-availability enterprise networking is reliable power protection

The first step is protecting your server with APC Smart-UPS, PowerChute *plus* and UPS accessories

From Desktop to Data Centre... *APC has a complete range of UPSs, software and accessories to protect your entire enterprise.*

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but it seems to make the PC run slower. How can I reverse this?

A Compressing a hard drive with DriveSpace can slow PCs with older CPUs, since every time you write to or read from a compressed drive, the CPU has to decompress or compress the bits you're handling. If you want to retain DriveSpace, you can strike a balance between compression and performance using Windows 9x's Compression Agent. Select *Start-Programs-Accessories-System Tools-Compression Agent* and click *Settings*. Use the UltraPack option for files not used in the past 15 to 30 days and set HiPack to not compress any other files.

CUSTOMISATION

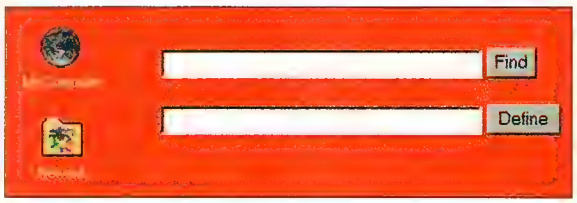
As you like it

As Windows grows up, it provides more opportunities for customisation. Whether it's the desktop or Explorer, chances are you can tweak it to your liking.

ACTIVE DESKTOP

Q IE4 IE5 How can Active Desktop help with searching the Web?

A Because Windows 98 (and Windows 95 — if you also have IE) is closely integrated with the Web, it's easy to add Web pages on an Active Desktop — and that includes search forms. Relax, it's not as hard as it sounds. Most Web search sites provide you with the HTML code to cut and paste into a text editor. Fire up a Web browser, point it to your favourite search site and look under the Help section for the code for a search form (for some examples, see HotBot's Web site at www.hotbot.com/help/tools). Highlight the code, press **<Ctrl>-C** and open a new document in Notepad. Then press **<Ctrl>-V** to paste the new code and save the document in any folder as **search.html**. Go to that folder, make sure it's not maximised, right-drag search.html onto the desktop and release. Select *Create Active Desktop Item Here*. Click *Yes* in the ensuing dialogue boxes (if Active Desktop isn't enabled, Windows will do it for you). The search form will appear on your desktop — just resize it to fit and it'll be there for good. If your desktop has a certain background colour, you can match the background colour of the search form so it appears to be seamless on the desktop. If the desktop is black, open search.html in Notepad or any other text editor and add the line **<BODY bgcolor="black">** (note, however, that some colours may require hex code) above the line that starts with '**<FORM>**'.



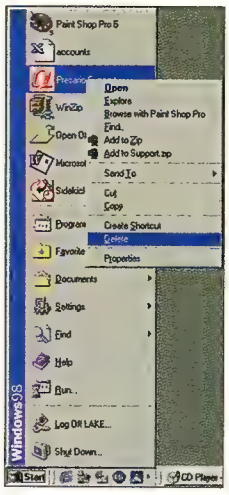
You can put a Web search field right on your desktop using HTML code from almost any Web site

Q 95 98 How can I keep all the Active Desktop elements on my desktop?

A Fortunately, these objects are not like regular Windows wallpaper — you can resize them, move them, or turn them off as you wish. Move your mouse over an active element and slide the pointer upward without clicking. A grey window frame and title bar will appear. Move your mouse to the edge of the bar until the pointer becomes a two-headed arrow; you can then resize the box in any direction you want. To move it, click and drag the title bar. And to remove the item from the desktop altogether, click the *X* (close) button on the top right.

Q 98 How can I get rid of My Computer, the Inbox and other icons that are in the way of my Active Desktop item?

A If you've turned on the Active Desktop's View As Web Page option, you can make desktop icons disappear as easily as David Copperfield can hide an elephant. Simply right-click the desktop, select *Properties* and, on the dialogue box's *Effects* tab, locate the row of icons at the top. Beneath them, you'll see a check box with the caption 'Hide icons when the desktop is viewed as a Web page'. Click it and — presto! — all the icons will be invisible as long as the Active Desktop is viewed as a Web page. Should you need to get to the Recycle Bin or My Computer in a hurry, right-click the desktop and under the *Active Desktop* option, deselect *View As Web Page* to disable the option. Then, when you're finished, repeat the process in order to restore your Web desktop.



A right mouse-click on any Start menu item brings up a menu with a Delete option

TOOLBARS

Q 95 98 How do I add new toolbars to the Windows taskbar?

A Right-click a blank space on any toolbar, select *Toolbars* and you're given a list: Address, Links, Desktop, Quick Launch and New Toolbar. You can select any or all of these toolbars to have them appear on the taskbar. Choose *New Toolbars* to create your own. From the dialogue box that appears, choose an existing folder (such as My Computer or My Documents) or type in a URL and click *OK*. You now have a new toolbar. Drag onto it the icons of the programs you want until you've built the perfect toolbar for your needs. To remove the toolbar, right-click the taskbar, select *Toolbars* and uncheck the toolbar that you don't want.

Q 95 98 How do I add or cut items to and from the Quick Launch toolbar?

A That toolbar, squeezed between the Start button and the taskbar, appears by default when

you install Internet Explorer 4.x or 5 under either Windows 95 or 98. To add an item (for example, the Word icon), right-drag it from the source folder to the toolbar (an I-beam is displayed where the icon will appear), release the mouse button and select *Create Shortcut(s) Here*. You can change the order of the icons simply by dragging them. The Quick Launch toolbar does tend to get cluttered quickly if you keep adding items to it. To remove an item, right-click it and select *Delete* from the context menu.

Q 95 98 Toolbars that give me quick access to often-used programs, URLs, files and folders are great, but my screen space is precious. How can I save space without giving up this feature?

A By default, when you create a toolbar, Windows adds it to the taskbar. You can make the taskbar taller (point to the top edge of the bar; when the pointer changes to a double-headed arrow, click and hold down the mouse button and drag the edge up), but that consumes even more of the screen. To shrink a toolbar, you can right-click its handle or title and select *View-Small* or uncheck *Show Title* or *Show Text*. To regain even more desktop real estate, right-click a blank spot of the taskbar or of a toolbar on the taskbar, select *Properties* and check both *Always on top* and *Auto hide*. You can also drag the handle of a toolbar off the taskbar to another edge of the desktop, right-click the toolbar's handle and check the *Always on Top* and *Auto Hide* options. Now, when you point your mouse to the edge of the screen, the hidden bar will pop up.

Q 95 98 I've dragged several new items onto a toolbar and I can't tell their icons apart. Is there any way to make them look more distinctive?

A When you add a new item to a toolbar, you are creating a Windows shortcut to the original item. As with all shortcuts, you can change the icon at will. Right-click the nondescript icon, select *Properties* and click the *Change Icon* button. Pick one of the displayed icons, or select *Browse* for more choices. Note: if you select *All Files* from the Files of Type list box, you can use .bmp or .gif files for icons too — Windows will scrunch bitmaps of any dimension down to icon size. Once you have chosen an icon, click *OK*, then *Apply*. IE 5 users can turn on Show Text (see previous tip) and shrink the length of the toolbar,

You've got the look

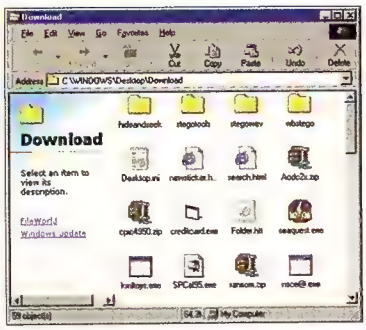
Q IE4 IE5 How can I change the appearance of my Explorer window?

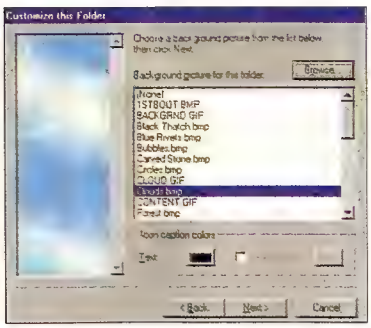
A There are many different looks for Windows Explorer windows and the big secret is that every scheme is simply an HTML file that's easy to swap in or out. So it's worth experimenting with different schemes until you settle on one you can live with. To start, select any folder and then select *View-as Web Page*. This provides a left-hand frame with information about any file selected — and gives thumbnail previews of some graphics and Web files.

Next, select *View-Customize this Folder*. The dialogue box that appears enables you to add a background picture to the right-hand frame of the Explorer folder, or add HTML coding such as hyperlinks to the left-hand frame. If you select 'Create or edit an HTML document', you'll need to have some basic HTML coding skills to enter codes into a text editor (removing comment-out marks and inserting live text into dummy code such as *myhomepage*). The result is a folder with Web links.

To add a background picture, select the *Choose a background picture* option from the *View-Customize this Folder* dialogue box and click *Next*. Pick a GIF, JPEG, or Windows BMP graphic from the list of files and you'll get a preview in the left frame. You may need to change the text colour in order to make it visible over brighter background images. When you've finally made your selection, click *Next*, then *Finish* and your Explorer makeover will be complete.

To undo all customisation in one swoop, select *View-Customize this Folder-Remove Customization* and click *Next*, then *Finish*.





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because IE 5 displays the toolbar's hidden items when you click the toolbar's double-arrow scroll button.

EXPLORER/DESKTOP

Q 98 Can I run a systemwide check for broken shortcuts left by deleted apps?

A The Windows 98 Resource Kit provides just such a tool and it's available on the Windows 98 setup CD. The Link Check Wizard (checklinks.exe in \Program Files\Win98RK) checks for broken links and shortcuts automatically.

Q 95 98 How do I get rid of some of the program icons on my Start menu?

A Items on the Start menu are hard-coded, except for those above the horizontal line at the top. But icons in the Programs submenu are standard Windows shortcuts that you can modify as you need. You can right-click them to bring up a context menu, which lets you delete the item, rename it, or find out where its target program is. (This shortcut information is hidden under the Properties option). If you're using Windows 95 without IE 4.x, getting rid of a program icon requires an extra step: Right-click *Start*, select *Open* and then double-click *Programs*. Navigate to the unwanted icon, right-click it and select *Delete*.

Q 95 98 Now that my folders look more like Web pages, I'd like to make them act more like Web pages, with underlined links that I can single-click on. How can I accomplish this?

A If you've changed your folders so that they look like Web pages (see "You've Got the Look"), it's easy to give them more Weblike features. From any folder or Explorer window (including My Computer), select *View-Folder Options* and click *Web style*.

Q 98 How can I make Explorer show my three most important folders, no matter which hard drive or folder I'm exploring?

A Using the Links toolbar, you can access your working folders by treating them as links. First activate the Links toolbar: In My Computer or Explorer, select *View-Toolbars*. Click *Links* to activate the toolbar, or right-click the taskbar, then select *Toolbars* and click *Links*. If the toolbar consists only of the word 'Links', it's being crowded out by other toolbars; to expand it, either drag the vertical divider next to it or double-click the word *Links*. By default, the Links toolbar contains Web links to several Microsoft Web sites — you can delete these by right-clicking them and selecting *Delete*.

To add shortcuts to your favourite folders, just drag them from Explorer onto the Links toolbar.

Q 95 98 How can I set up my PC so that the users who share it can each store their own settings?

A First make sure you know all your network passwords. Then go to *Start-Settings-Control Panel* and double-click *Users*. If you haven't set up users, the Enable Multi-user Settings dialogue box will appear; click *Next*. If you have set up users, the User Settings dialogue box appears; click *New User*. Follow the Add User Wizard prompts to create a user name and password for yourself. When you get to the Personalised Items Settings, check all five boxes. If you want to keep the settings, click *Create copies...*; if you want to abandon the current settings and start over, click *Create new items...*, click *OK* and click *Yes* if prompted to reboot. Each time you're finished working on the PC, log off before others log on, or they'll use (and can change) your settings.

From now on, when you turn on or log on to the PC, your settings will be restored. Tell the other users they'll have to enter a user name and password when they log on. Also, make sure everyone knows that the password protects only other passwords, not the PC's files.

NAVIGATION

Destination: Web

While Windows 95 and 98 may deliver an enhanced Web experience thanks to their greater integration with Internet Explorer, some features remain less obvious than others. Follow these tips to enhance your browsing.

Q 98 IE5 How can I reduce the amount of typing I do when filling in addresses or locations in Windows 98 or Explorer?

A You can assign shortcut names to sites in your Favorites folder (say, "MS" for www.microsoft.com). To do so, click the *Favorites button* on the toolbar (not on the menu), right-click the item to rename and select *Rename*. Now you can type the shortcut in the address box and Windows/IE will present a drop-down list of matching sites or subfolder names in your History and Favorites folders. Press <**Down Arrow**> to scroll to the shortcut.

Q 95 98 IE5 Can I control the placement of items that I add to the Start or Programs menus by dragging and dropping?

A If you drag a file onto the Start button, Windows adds a shortcut to the top of the Start menu, above a horizontal bar. But if you drag the file over the Start button and don't drop it, the Start menu will open and you can position the new shortcut exactly where you want it, even onto

a submenu (just hover over the submenu's name and it will open). If you've installed IE 5, you can also sort these entries by name: just right-click anywhere within them and select *Sort by Name*.

Q IE4 IE5 How can I view my favourite Web pages offline?

A In IE 4, viewing Web pages offline is as simple as going to the File menu and selecting *Work Offline*. IE will always start in offline mode until you deselect this option. Windows stores the last-viewed version of the page on your hard drive for quick access. In addition to viewing subscribed Web sites offline, you can also view Web pages stored in your History or Temporary Internet Files folders.

In IE 5, the best way to make pages viewable offline is to select *File-Save As* when you're on the page you wish to save and choose *Web page*, complete in the 'Save as type' box. This will save the page, complete with all its images, to your hard disk. A more sophisticated solution, though not quite as intuitive, requires you to first save the page you want to view offline as a Favorite. Then right-click that page's *Favorites* entry, select *Make available offline*, click *Next* if the introductory screen appears, click the radio button next to Yes and select the depth of Web pages you want to save for offline viewing (don't exceed two or three levels, or you'll run out of hard disk space).

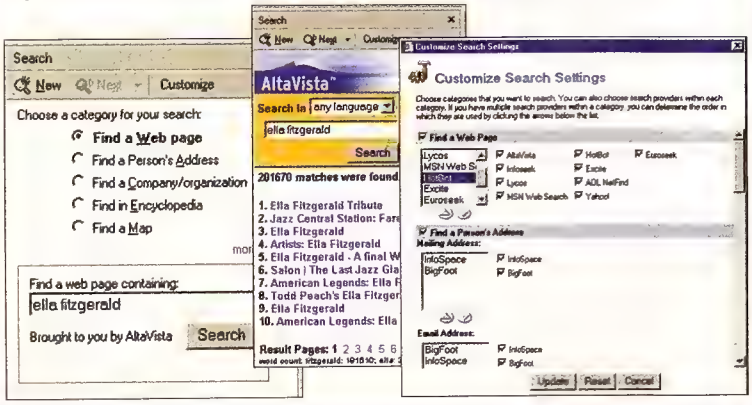
Q IE4 IE5 Is there an easier way to return to a previously visited site than clicking the Back button over and over?

A Use the History feature. In IE 4, select *View-Explorer Bar-History* to see previously visited sites, listed by date. The top-level URLs are shown; when you click one, you'll see all the pages you've visited within that site. To change the number of days for which pages stay active in the History folder, or to clear the folder, go to *View-Internet Options*, select the *General* tab and make the change under the History heading. Internet Explorer 5 further enhances the History folder, letting you view a list of the sites you've visited in any of four ways: by date, alphabetically by site name, by the number of visits you've made to each site, or by the order in which you visited the sites today. To access the different views, click *History* and then click the *View* button at the top of the History pane.

Smarter searches

Q IE5 Is there a way to perform more comprehensive searches than selecting Start-Find to use the standard Windows Find tool?

A With Internet Explorer 5's Search Assistant, you can search by specifying the category of information you're trying to find. Click the *Search* button on Internet Explorer's toolbar, click the button next to the type of information you're looking for (e-mail address, encyclopedia entry and so on) and type your query into the provided Search field. If you select *Find a Web page*, Internet Explorer will kick into metasearch mode and look for your keywords in several search engines simultaneously. The first list of matches represents those found on just one of those search engines (AltaVista, for example); to view the results from another engine, click *Next* at the top of the Search pane. If you want to change the order in which the engines' results appear, click *Customize*. The right-hand side of the screen will show the participating search engines. You can click any of them or use the up and down arrows to rearrange the order.



FILE MANAGEMENT
Good housekeeping

Both Windows 95 and 98 offer plenty of powerful file management options. Better still, many of them can be customised to best suit your personal style.

Q IE4 IE5 How can I display graphics files as thumbnail images?

A If you have IE and want to view all your images at once, right-click a folder containing images, click *Properties*, check *Enable thumbnail view* and click *OK*. Then open the folder and select *View-Thumbnails*. Graphics files recognised by Internet Explorer (including the most popular formats, such as .bmp, .gif, .jpg, .tif and so on) will appear as thumbnails, as will HTML documents. If you have 'Show all files' selected in *View-Folder Options View*, you'll also see desktop.ini and Thumbs.db, which Windows uses to track and manage the thumbnail properties and images. But this method puts unreasonable demands on your system resources, so use it only for your clip art folder, if you have one.

A simpler method that won't tax your system's resources enables you to view single thumbnails. Use the folder or Explorer menu and select *View-as Web Page*. Then select the image you want to preview and the thumbnail will appear on the left side of the folder.

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Q 98 How can I free up hard disk space, short of tossing out stuff I need?

A Right-click the drive icon in My Computer, select *Properties*, click *Disk Cleanup*, check all the boxes under 'Files to delete' and click *OK*. This will clear out a lot of the junk files from your disk and empty the Recycle Bin.

Next, open Control Panel and click *Add/Remove Programs*. If you see a program in the list of uninstallable apps that you don't use, select it and click *Add/Remove* to uninstall it. Repeat this for other apps you don't need. (To get rid of everything, you may need to delete the program directory manually after uninstalling.) If you upgraded from an earlier Windows version and you're sure you won't want to uninstall Windows 98 later, select *Delete Windows 98 uninstall information* and click *Add/Remove*.

When you finish uninstalling all unwanted programs, select the *Windows Setup* tab in the Add/Remove Programs Properties dialogue box. One at a time, double-click each entry in the Components list; in the sublist that appears, uncheck items you don't use or want — such as screen savers or games. When you've unchecked everything you can, click *OK* to uninstall all of them at once.

Q 95 98 When I launch Explorer, it displays the top level of my C: drive. How can I change that?

A First, navigate to C:\Windows\Start Menu\Programs. Right-click *Windows Explorer*, select *Properties* and choose the *Shortcut* tab. Replace the C:\ at the end of the Target field entry with the path to the folder you want opened (such as, C:\My Documents) and click *OK*.

HARDWARE

Ready to ware

Finally, Windows has taken some steps toward improved hardware support and troubleshooting. Whether you've got Windows 95 or 98, you'll find tips to make your devices run more smoothly.

Q 95 98 What are the minimum requirements for upgrading to Win 98?

A Microsoft claims you can run Windows 98 on a 66MHz PC with only 16MB of RAM, but those numbers are a bit misleading. Sure, Windows 98 can *run* on older PCs but if you want to *do* anything, say, use an application, you'll need at least a 100MHz Pentium PC with 32MB of RAM.

In terms of hard disk space, you'll need approximately 195MB to upgrade from Windows 95 to Win 98 and 225MB for a full Win 98 installation (175MB on a FAT32 drive). However, depending on your system and the optional components you choose to install, like desktop themes and Web TV for Windows, Windows 98 could gobble up as much as 355MB of your FAT16 hard disk.

Q 95 98 How do I connect multiple devices to one USB port?

A In theory, USB allows you to daisy-chain up to 127 peripherals in either Windows 95 or 98. The problem is, most USB devices don't provide an extra port for this type of connection and even if they did, multiple devices attached to the same USB port would quickly overload its power supply. Consider purchasing a USB hub, such as one of the products available from ADS, to expand a single USB port into four or more separate ports. Be sure to check for compatibility — not all hubs can be installed on a Win 95 system; with Win 98, you can take your pick. Installation is a breeze: just attach the hub to one of your USB ports using the cable provided.

Q 98 What's the best way to troubleshoot hardware conflicts that occur after I've installed new devices?

A Sure, Windows 98 has improved hardware compatibility, but Plug and Play is still a work in progress. If you have problems booting into Windows after installing new hardware, Windows 98 allows you to temporarily disable the driver so you can find the conflict. Select *Start-Programs-Accessories-System Tools-System Information Utility* and then *Tools-Automatic Skip Driver Agent*. When you reboot, Windows will disable the driver that failed and the Skip Driver Agent will identify it, but you'll still have to identify the problem. To do so, right-click *My Computer*, click *Properties-Device Manager* and check the properties of devices with problems (such as an interrupt conflict). You can then re-enable the driver and try booting again.

Q 95 98 Graphics seem to load really slowly on my PC. How can I improve my monitor's performance?

A Unless you work with a lot of complicated graphics, such as photographs, or have a state-of-the-art (8MB or higher) graphics card, keep your resolution and colour set to 800 x 600 and 256 colours for maximum display performance. (The fewer dots and colours Windows has to work with, the faster it can redraw each screen.) In Windows 95, click *Start-Settings-Control Panel-System*, select *Display*, then click the *Settings* tab and make the necessary changes.

If you've got Windows 98, the fix is much simpler. In the System Tray to the right of the taskbar, you'll see an icon that looks like a monitor. Click it once and select the desired resolution/colour setting combination from the pop-up list — *800 x 600 256 Colours* should do the trick. Windows 95 users aren't out of luck. They can get the same feature by installing TweakUI.

Q 98 How can I use two monitors with my PC at the same time?

A Windows 98 allows you to use up to nine — count 'em, nine monitors at the same time. But that's only if all the graphics cards on your system (you'll need one for each monitor) support multiple-monitor display. So before you run out and buy a brand-new monitor and a 16MB AGP graphics card, check your current card against Microsoft's listing of

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compatible PCI and AGP graphics cards at http://www.microsoft.com/directx/pavillion/hardware/vidcardlist.htm. If your card is not on the list, you're going to have to purchase two brand-new cards.

If you've installed the right hardware, select *Start-Settings-Control Panel-System-Display*, then click the *Settings* tab. Choose your newly installed monitor under Display, select *Extend my Windows 98 desktop onto this monitor*, then click *OK*.

Windows wonders

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MORE GOODIES

Grab bag

Still not sure if you should upgrade to Windows 98? Well, go ahead and kick the tires. You can always go back. Here are some tips we couldn't fit elsewhere.

Q 95 How can I tell which version of Windows 95 I'm using?

A What features you have depends on which Service Release of Windows 95 you're using. To find out, right-click *My Computer* and select *Properties*; under the General tab you'll see the version number. If that number is 4.00.950, you have the original; 4.00.950a means your version's been updated with Service Pack 1; and if it's 4.00.950b, you have the OSR2 (OEM Service Release 2) version.

Q 95 98 How can I install Windows 98 and FAT32 but still retain the option of switching back to Win 95?

A You can do this with PartitionMagic. By creating hard disk partitions, you trick Windows into thinking that you have separate hard disks, so it won't delete the files needed to restore Windows 95. After installing Windows 98, use PartitionMagic to convert to FAT32. To do so, select *Start-Partition Magic by PowerQuest-PartitionMagic*. When you are prompted, click *Yes* to switch to MS-DOS mode. In PartitionMagic, select *Advanced-Advanced FAT Properties*. From the Partition Type menu, choose FAT32. If you wish, set the cluster size; click *OK* to start the conversion. If you later decide that you want to return to Windows 95, use PartitionMagic to convert the drive back to FAT16, then uninstall Windows 98 as described in the *Getting Started* book.

You can also use PartitionMagic to install Windows 98 in a separate partition, which will enable you to run Windows 95 with FAT16 and Windows 98 with FAT32. If you don't have a spare partition, PartitionMagic can create one.

When you select one of the operating systems from PartitionMagic's boot menu, the partition with the other OS is hidden, so both OSs think they're running on the C: drive. This method has a drawback, however: Windows 98 can't access the applications you've installed in Windows 95, so you'll need to install separate copies of your apps for both operating systems.

Q 98 Should I use Drive Converter to free up space on my hard disk?

A Yes, but be aware that it may also degrade drive performance. In converting a 1GB or 2GB drive from FAT16 to FAT32, Drive Converter (*Start-Programs-Accessories-System Tools-Drive Converter*) breaks each 32KB cluster — in which Windows parcels out disk space to files — into eight 4KB clusters. On 512MB to 1023MB drives, it divides each 16KB cluster in four. (The conversion won't work on smaller drives and a 2GB drive is the largest that FAT16 can create.) Since every file, no matter how small, uses at least one whole cluster, this reallocation causes a significant gain in drive space. Unfortunately, more clusters means more information for Windows to track and some disk-intensive operations such as defragging may take twice as long after conversion.

You can free up more than half the space with less slowdown by using Drive Converter's command-line version, which allows you to override the default cluster size. First, make a full backup and restart in MS-DOS. For a 512MB to 1023MB C: drive, enter **cvt c: /cvt32 /16** for 8KB clusters; for a 1GB to 2GB drive, use **cvt c: /cvt32 /32** for 16KB clusters.

Q 95 98 How can I install both Windows 95 and 98 on the same PC?

A Windows 98 can get along fine with Windows 3.1, NT 4.0 and even Linux, but it wasn't designed to coexist with Windows 95. The easiest way around that limitation is V Communications' System Commander Deluxe. This utility creates a copy of your existing Windows 95 setup, which you can then upgrade to Windows 98 in the usual way. All of your settings are preserved and you don't have to reinstall your apps, but you *must* use the upgrade version of Windows 98 and when you reach the Win 98 installation's Save System Files dialogue, select *No* — there's no reason to back up the copied Win 95 files, since System Commander 98 preserves the originals. If you decide to uninstall Windows 98, System Commander 98 can handle that job too — or if you decide to run Windows 98 full-time, you can use System Commander Deluxe to delete Windows 95 and free up disk space. pcw

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Feature

HANDHELDS

For the last two weeks, I've probably been the most organised person on the planet. Surrounded by a chorus of chimes, chirps and bingley-beeps, I've poked and prodded a batch of connected organisers, PDAs and PC companions while they've poked and prodded me with all the latest tools in the battle to stay connected, stay organised and stay at the leading edge of techno-cool.

By Phil Campbell

If you recognise the "bingley-beep" from Terry Pratchett's latest Discworld novel, you'll know that some Personal Disorganisers are best hurled in the nearest ocean. That's not a fate recommended for any of the units in this feature, though if you're running your life with one of these things, you'll soon realise that annoying quirks soon become magnified. Sometimes, low tech is better than high tech. In this arena at least, simplicity rules.

In fact, as a long-term PalmPilot user (and an admitted fan), I've found that basic design issues like portability and ease of data entry are the things that decide whether I take it with me each day or leave it behind. The trouble is, you can't "half-rely" on a scheduling device. It's all or nothing. Storing "half" your appointments and "some" of your contacts actually makes you less organised than you were before. And if you're not going to carry it with you everywhere, even the best of these machines won't stop you missing that important meeting. In short, when you're shopping for one of these babies, make sure it's totally user-friendly, and suited to your work-style and life-style. And by the way, it doesn't hurt if it's fun, too.

The confusion in terminology when it comes to these devices is interesting. Are they Personal Digital Assistants, or Palm Computers? Are they "connected organisers" (an evolution from the early Sharp and Casio clamshells) or "PC Companions" (an extension of your desktop)? The answer is, of course, all of the above. The organiser has finally converged with the desktop, and the vision of the PDA that Apple's Newton failed to deliver is almost a reality. Handwriting recognition now works well, you can carry your key data in your pocket, and with many of the machines we look at, connecting to the Internet for e-mail and Web access is easy.

That's probably why, after a slow start, the handheld market is growing so fast. Just under four million units shipped in the last year, with 3Com's Palm package dominating the market. Microsoft is working hard to grab a slice of the action, with the trim Windows CE operating system accounting for almost a quarter of sales. The same OS scales to suit three distinct models. Palm-sized PCs, like the Philips Nino, feature a 240

on PARADE

x 320 pixel screen, and usually depend on stylus input, with handwriting recognition. The new Cassiopeia E-100 pushes the boundaries in this category, with an active matrix 16-bit colour display, and the ability to play CD-quality MP3 audio files. Throw out your Walkman.

Mid-sized handhelds (distinctive for their long, narrow 640 x 240-pixel screens), like Sharp's HC-4600, feature pint-sized keyboards, while Handheld Pro models offer full VGA resolution in a mini-laptop configuration at almost-laptop prices.

Into the mix come left-field players like Psion, whose EPOC operating system has been evolving in the background for years. It's ready for prime time in the Psion 5, which is more than a match for most mid-sized Windows CE machines. Likewise, the oddly-named Royal daVinci is a pretender to the Palm throne, complete with handwriting recognition, built-in apps and a remarkably affordable price tag. Interesting days indeed. In this feature we'll take a look at the most interesting handhelds on offer, with an emphasis on simplicity, practicality and day-to-day annoyances.

Palm-size packages

3COM PALM SERIES

With almost two million units shipped in 1998, and a 40 per cent market share, 3Com's Palm platform is the dominant force in pint-sized computing. First came the Pilot organiser, soon rechristened the PalmPilot, and now simply the Palm. With time, the packaging has become smaller, leaner, and meaner, but what hasn't changed is the software under the hood. It was small, lean and mean already. As soon as you press the green power button, you realise you're dealing with a tool rather than a toy — it's no fuss, it's easy to use, and after a few minutes familiarising yourself with the simplified Graffiti Handwriting system, you're an expert.

Earlier models had some quirks, like an alarm that was too soft to be useful — about as alarming as a tickle on the toe. And the dimensions, though genuinely palm-sized, were too boxy to allow the original Pilot to sit easily in a shirt pocket. The Palm III improves things a little, tipping the scales at around 160g, and measuring 12 x 8cm. But it's the sleek, upmarket Palm V that sets the new benchmark (see our First Look, May 99, p48). Cased in anodised aluminium, it's around half the thickness of the Palm III, with a centimetre trimmed from its length as well. Weighing in at 150g, the Palm V is now perfectly portable.

The alarm has been fixed, with more volume and a range of sounds, and a lithium ion powerpack now recharges while you're transferring data to your PC — no more AAA batteries! Clarity of the 180 x 180-pixel mono screen is improved, with new reverse-mode backlighting. (Text now glows green against a black background.) Even in daylight, the Palm's mono screen seems clearer than any of the other machines we tested. A neat leather cover-flap protects the screen from bumps and scratches, and complements the aluminium casing perfectly.

While the built-in Date Book, Address Manager, To Do, Memo, Mail and Expense Manager applications offer the fundamentals, the real key to the spectacular success of the PalmPilot platform has been the huge range of third-party applications. Whether you want to budget for an engineering project or your weekly shopping, or play a mindless game, there's a Palm application ready and waiting on one of the many Palm software Web sites. Downloadable Windows CE software is thin on the ground compared to the flood of Palm apps. The PalmCentral site is a good starting point (www.palmcentral.com), with a pile of downloadable Palm software and links to other useful sites. (Cool: download OmniRemote, and you can use the infrared equipped Palm V as a replacement for your TV remote controller!)

Sychronising with your host PC is easy — the docking cradle plugs into an unused COM port, and Palm's hotsync software initiates the link at the press of a button. Not so hot, though, is the PC-side Palm Desktop Personal Information Manager that ships on the Palm installation CD. It's rudimentary to say the least. The good news is, many industrial strength PIMs, like Sidekick and Microsoft Outlook, now feature direct Palm support as a matter of course. Third-party solutions

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offer data conduits to a range of other products, including Lotus Organiser.

The current Palm range includes the 2MB Palm III, the Palm IIIx, with 4MB of storage, and the sleek Palm V, with an unexpandable 2MB and infinite sex appeal.

IN BRIEF: Still the one to beat for Palm-sized computing. Simple and effective with masses of third-party software.

PHILIPS NINO 210

As the wits of Cyberspace have long observed, Windows CE is all too easily abbreviated as "Wince". Well, maybe they're just the wisecracks — the types who hang around the fiercely loyal Palm software chat groups — and maybe I'm a little too Palm-biased myself, but I've found it hard to make friends with the Windows CE palmtop. Powered by a MIPS R3000 processor, with 8MB RAM, the Nino runs CE 2.0 in vertical orientation on a 240 x 320 backlit mono screen. Critics say that's just too small a space to make Windows functional. Critics say it's all just too cluttered. Critics say it's a little bit confusing. I agree.

Mind you, as a fashion statement the Nino is almost on par with the Palm V. The sapphire blue case has sleek hour-glass contours and rubber sidestrips protecting an array of side-buttons, which give one-touch access to Nino's audio-recording features and your other frequently used applications.

Stylus input on the jot screen is decoded by the Jot handwriting recognition system. Like the Palm "Graffiti" system, Jot expects you to learn a series of new letter shapes. The input window has separate zones for lowercase letters, uppercase letters, and numbers. Unlike Graffiti glyphs, which I found easy to master, Jot characters sometimes demand a more complex stroke than the original letter shape. Somehow, it's easier to remember the parts of a character you need to leave off than strokes you need to add. Still, once you get the hang of it, it works consistently, so with a few hours practice, it should be flowing naturally. If you have problems, an on-screen keyboard is available for hunt-and-peck stylus typing.

Philips Nino 210

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Built-in software includes the regulation Win CE notetaker (a mini text editor), Contact Manager, Calendar, Task list, e-mail inbox and a Web channel manager. Curiously, to my mind at least, Philips has added Sweatbox, a personal exercise manager, and Mindset, a motivational trainer, both designed for professional athletes. Mindset offers thoughts for the day, like "Destiny is not a matter of chance, it's a matter of choice", and promises to "provide you with personal and unique information regarding your mental training skills". After quizzing you on how you're feeling to build up a body and mind database, an audio clip with a distinct American accent says "Give it all you've got." OK, OK, I m motivated.

Nino's infrared cap functions are easy to use, and handy for exchanging information with other users. Single "business card" files can be exchanged in a second or two, and it took only a few minutes to transfer my whole database of 439 contacts from the Sharp PV5000 to the Nino. The process worked first time, and was absolutely painless.

The Nino ships with a serial cable rather than a docking station for synchronising data with a host PC running the Windows CE Services ActiveSync system. Palmtop file icons appear in a desktop window and are automatically converted when you drag and drop to another folder.

Overall, the Nino looks great, but feels awkward. Jot input windows cover important information on application screens, menus don't fit properly across title bars, and the whole system lacks the lean, mean effectiveness of the Palm equivalent.

IN BRIEF: Cool blue contours, but a hard-to-read screen and cluttered windows mean the Nino and other CE Palmtops are less than user-friendly. Big competition is looming from colour models with CD-quality sound.

ROYAL DAVINCI

The Royal daVinci arrived just in time for inclusion in this feature, and didn't include the optional foldout keyboard that makes it such an interesting contender. Here's a palmtop organiser that breaks all the rules at half the price of its competitors; it seems to offer amazing value in a remarkably compact package.

For starters, the promised keyboard (an optional extra, but bundled at some retailers) seems to offer the best of both worlds. It's a small, elliptical keypad that plugs into the cradle connector on the base of the main unit, and folds for easy storage when not in use. Let me tell you, guys, Palm users would pay a bundle for one of these! But as I said, it didn't arrive.

What did emerge from the packing, though, was a compact, black plastic box with a double-hinged flap covering the screen. An array of small black buttons lie just below the flap, and a flimsy grey stylus sits loosely in a side channel. Overall, it's almost exactly the same size as an original PalmPilot, with a slightly flimsier feel.

The green backlit monochrome LCD screen offers slightly lower resolution than the Palm, at 160 x 160 pixels. Like the Nino, there's a lack of contrast that sends you searching for

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Brother has managed to deliver an innovative and well rounded product, that offers speed, versatility and above all excellent value in the MFC-7160C. Its

PC Magazine February 1999
Editors' Choice Award

PC MAGAZINE AUSTRALIA EDITORS' CHOICE

The award winning Brother MFC-7160C boasts eight features including colour printer, plain-paper fax, colour copier, colour scanner, Message Centre™ (with digital answering machine), hands-free speaker phone, colour PC fax, and exclusive colour video printing and video capture. For further information please visit www.brother.com **You Can Always Rely on Your** brother®

Royal daVinci

Royal daVinci $249
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Smart Products
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the backlight control. Reflected glare seems to be a problem in all but quite dark rooms.

Built-in applications include the regulation phone list, to-do list, planner, note taker and calculator, which are activated by a set of touch-buttons along the top of the screen. Another printed area below the screen has touch areas defined as "tools", "cancel" and "okay" buttons, with a small central area set aside for stylus input with proprietary daVinci script.

Again, there's a learning curve. Character shapes are printed on the inside face of the cover-flap for easy reference, but even then, my first attempts were incredibly frustrating. Why, for example, should a backwards "delete" stroke keep creating the letter "s"? I ended up wosssith a lincssss that looked something like this, until I realised the delete character can only be entered from the number area on the pad.

All the built-in applications are simple to use and effective. Strangely, the "notes" program is not a text editor, but a tiny bitmap editor. It's great for quick maps, and I guess ideally suited for grabbing a quick thought or phone number. It took some detective work to find the text "memo" application hidden under another layer of menus. The scheduler offers daily, weekly, monthly and quarterly views, with appointments indicated by tiny dots. The schedule alarm is reasonably clear, with a simple piercing beep.

Like its more expensive siblings, the daVinci docks easily with your PC, transferring data to a proprietary PIM program, which ships on a set of five floppies. A free downloadable CompanionLink program allows your information to be ported to Microsoft Outlook, while a $US79.95 version links to ACT and Lotus Organizer.

What the daVinci really needs, of course, is a slew of third-party applications to match the Palm. The big question is, will anyone come to the party? While the daVinci is powered by the same Dragonball chip as the Palm series organisers, which should allow some programs to be ported, it's limited to a meagre RAM bank of just 256K. More worrying, does the daVinci have the necessary "geek appeal" to stimulate much serious programming. Who knows?

In short, the daVinci offers great value for money, but if you're seriously planning to buy one, you'd better be sure that you're satisfied with the built-in software — it may be all there is. Stay tuned, too, for the more substantial daVinci Pro, due for release shortly, with a full megabyte of memory, a larger screen, and built-in fax and e-mail software.

IN BRIEF: Too soon to tell, but this could be the Palm organiser for the masses! Affordable, workable, but a little flimsy, and no third-party software support yet.

Half-screen handhelds

SHARP HC-4600

Sharp's HC-4600 is a classic example of the Windows CE 2.0 "Handheld" form factor — a purse-sized unit with a beautiful 640 x 240-pixel backlit colour screen. While Microsoft's standard icon-and-desktop layout looks a little odd in such a wide-screen format, it's functionally a much better option if you're committed to the baggage involved in the Windows operating environment. It also offers the possibility of falling right between two stools.

You guessed it, this device is too big to fit in a pocket, yet the chicklet-style calculator-button keyboard is too pokey to allow you to do a significant amount of useful work. As I type this, the weight of the screen keeps tilting

HC-4600
Sharp
$1599
1300 304 075
www.sharp.net.au

Sharp HC-4600

the keyboard backwards, making a tap-tap noise on the desk, and giving a distinct feeling that the whole unit is unbalanced. Heck, forget the feeling — the fact is, it ain't balanced at all! The situation is improved if you fold the unit upwards, but then you can't read it.

Those peeves aside, it's quite amazing that you can run modified versions of Word, Outlook, Excel and PowerPoint on such a pint-sized screen. Together with Sharp's own Image Editor and Voice Recorder programs, it's a remarkable set of tools to almost fit in your pocket. And bear in mind there's a growing collection of Windows CE software appearing on the Web — not nearly the quantity generated by the PalmPilot community, and often with more of a commercial sting, but an easy way to go shopping.

IN BRIEF: Nice clear screen, but a pity it won't sit flat while you're typing. Too big and too small, all at the same time.

PSION 5

Although it has the ugliest stylus I've ever seen, the Psion 5 is a very cool bit of gear. Closed, it's around the size of a typical purse or wallet, though slimmer and lighter than Sharp's HC-4600. Open the clamshell case, and the keyboard slides forward beneath the screen at a usable and stable angle. Small buttons on the outside of the case allow you to record and play audio notes, and an infrared port allows data to be transferred to your PC, or through an Ericsson mobile phone.

The first thing you'll look for when you flip open the case is the backlight button. In normal room lighting conditions, the 640 x 240 mono LCD touchscreen lacks contrast. With the backlight, it's beautiful. That means I'm using the backlight every time I switch on the machine, so I'm not expecting to achieve the promised two-month life from my pair of AA batteries. Still, it's worth the extra drain.

The keyboard on the test unit was a little disappointing, and may reflect on the fact that Psion sent a well-used machine for review. While surprisingly big for such a compact machine, I found the keys were tight, with very little travel, so touch typists will need to retune. Even so, I'm typing these words on the keyboard right now, and after the first few lines I'm hitting less ddouble characters, and starting to find a rhythm.

Don't be put off by the fact that Psion's built-in "office suite" programs

Psion 5

Psion 5
$1099
Vodaphone
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www.psion.com

Small in the hand, big on the pocket

If money's no object, check out Sharp's $1899 PV-5000. It has the distinction of being the first Windows CE Pro "PC Companion" to make it to the Australian market. Slightly larger than a folded piece of A4 paper, and around an inch thick when closed, this is a machine that has grown out of the Palmtop category, but still qualifies as a handheld. And with a full complement of Windows CE Pocket Office applications built in, and a crisp 640 x 480 touch-sensitive colour screen, this may be all most mobile users ever need. (For a full review, see March 1999, p47).

For innovative design, look no further than the Vadem Clio (pictured). Winner of numerous US industry awards, and the darling of the Internet Win CE community, the Clio is a CE Pro machine with a unique flipover design. Hinged arms allow the matte black case to open in traditional mini-laptop style — but push back a little further and tilt, and the screen folds over the keyboard and clips down into graphics tablet format. Built-in Calligrapher software makes the touch-sensitive screen an effective handwriting tablet. Incredibly, you can even write in connected script, with more than acceptable recognition accuracy. Finally, handwriting input is ready for prime time. If you're looking for a note-taking companion to sync with your PC, Vadem's Clio is a neat option, but the tragedy is, it currently has no Australian distributor! If you want to buy one, you will need to visit the Vadem online store at www.vadem.com/clio. The Clio costs $US999.

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don't carry the official Windows stamp. It doesn't matter. In fact, the Psion software easily matches the standard of the Windows CE "pocket" applications, with automatic format conversion when programs are synched to your host PC through the PsiWin data link program.

Psion's word processor has a small but useful range of formatting controls, including justification, bulleted lists and borders. You can insert sketches and graphs with the touch of a button, and print the results direct to a suitable infrared-enabled printer, or transfer them to your PC in documents automatically formatted for Microsoft Word, WordPerfect, Works 4.0, or AmiPro. In contrast, Microsoft's Pocket Word simply strips graphic content from PC Word files, and can't insert them from the CE end.

I found Psion's Agenda Manager the most appealing scheduler of all the handhelds, with a simple notebook-page interface styled after the popular Lotus Organizer — which, incidentally, syncs seamlessly with the handheld. There's a range of digitised alarm sounds, from a gentle Big Ben chime to a shrill phone-style ring, and handwritten "ink-notes" can be included in your schedule.

Spreadsheet and calculator programs are both included in the Psion ROM. The calculator has full scientific functions with a paper-tape display at the side of the screen. The spreadsheet has plenty of cells, and enough built-in functions to give plenty of on-the-road grunt — financial, statistical, logical, mathematical, text, date and time operators make this a pocket powerhouse.

Contact management is rudimentary, with a choice of table or card views of your data. Again, synching with your PC-based Lotus, Outlook, or Schedule+ data is straightforward through the drag-and-drop PsiWin program.

I'm a doodler from way back, so my favourite built-in Psion application is the sketchpad. The fact you can grab the stylus and scribble a quick pic makes for lots of fun — and it's useful, too, if you need to sketch a quick map or diagram. Unlike all the other palm-sized sketch apps, this one features a soft-edged paint tool that's perfect for a splash of shading. There's even a range of built-in clip art!

The fact that the Psion 5 is marketed in Australia by Vodaphone gives more than a hint of the fact that mobile communications feature strongly on the Psion agenda. Coupled with an infrared-equipped mobile phone like the Ericsson SH-888, sending and receiving e-mail on the road is a snap. You'll need to pick up a free add-on browser program if you want to do a little road-surfing but keep in mind, all mobile data connections are limited to a stodgy 9600bps. That's fine for text-based e-mail, but too slow for anything but emergency Web access.

Finally, Psion's substantial European following means you'll find plenty of software lurking on Web pages all around the world (start surfing at www.psion.com). And it won't hurt to polish up your German.

IN BRIEF: If you're persuaded by the mid-size form factor, make sure you try one of these before you opt for Windows CE. Well thought out operating system, powerful programs and great for on-the-road communication.

Organised at last?

So after a few weeks of being so multiply organised, what's the bottom line? First, most of these gadgets are darn good, but none of them is perfect. For day-to-day use, all will have something to niggle you — some more than others. Second, with USB connectivity gaining acceptance, and infrared capability already built-in to all the units under review, it's a little surprising that the PC-sync side of the equation still depends on clumsy-to-connect cradles and serial cables. Why not bundle an infrared receiver instead, or free up a serial port with a super-fast USB cable?

As for my pick of the units on review, ultimately, the choice is yours. But for me, well, I'll happily stick with my old PalmPilot Professional, and dream of a new Palm V, while I watch the arrival of the upcoming daVinci Pro with genuine interest. In the world of Windows CE, I'm excited by the full-screen Pro machines, and underwhelmed by what I've seen of the Palmtops and handhelds. The larger CE Pro offerings provide enough portability to work almost anywhere, and enough processing power to do it in style.

Anyway, gotta go — seven little alarms are reminding me I just missed my deadline. pcw

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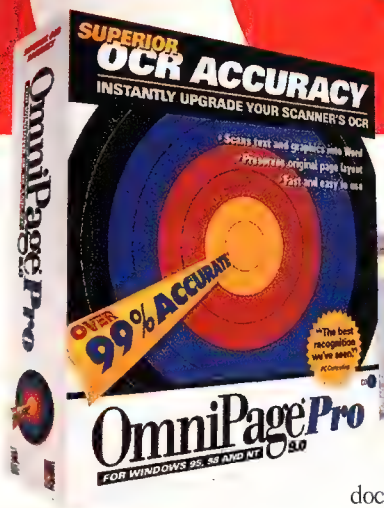

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Road to riches

Whether you need to manage personal or business finances, there's an accounting package out there that will help you take the strain

By Veechi Curtis

Considering that it's such a solid and tangible substance, money can be incredibly elusive. In the door one day, gone with scarcely a trace the next. Happily, the secret to understanding this phenomenon is not so difficult, for whether you're trying to get to the bottom of your personal money mystery or make sense of your burgeoning business empire, you can find software to help you.

But where should you start looking? There are dozens of different products out there, and for the uninitiated, it's hard to distinguish between them. This round-up will introduce you to the most popular accounting packages on the market and show how they can help you manage your money.

Personal finance

Why is it that the more money you have, the more bills come flooding through the door? Why credit cards always sit at their limit, no matter how much you pay off them? Or why the only person in your household eating gourmet tucker is the dog?

If you find yourself asking such questions, then chances are you could do with some personal finance software. For those living life on a shoestring, it helps track weekly income, set household budgets and keep a beady eye on expenses. For the more established, personal finance software is the ideal tool to look after shares and investments or manage your superannuation portfolio.

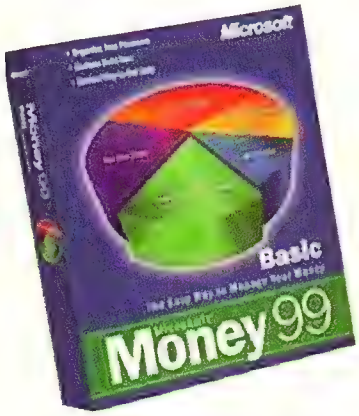
In Australia, the two main personal finance managers are Microsoft Money and Quicken.

MICROSOFT MONEY 99

Money 99 provides a fun and easy way to whip home finances into shape, helping to balance your chequebook, pay bills and save for important goals. It has changed a great deal since previous versions, with lots of new features and an emphasis on electronic banking.

One new feature is the chillingly realistic Debt Reduction Planner. Take a deep breath, list every single debt you have and examine your minimum payments. Feel daunted? Ask Money to suggest a repayment strategy or see how much you'd have to pay each month in order to clear this debt by a certain date.

Money 99 isn't adapted specifically for Australia and it would seem that it's still not possible to take advantage of its new electronic banking features.



However, the documentation isn't clear on this point and the Web site link for help offers little illumination, as it goes straight to Microsoft Money's US site.

On the other hand, Money's portfolio management is great and the link to the Australian Stock Exchange works well, automatically updating share prices and calculating your gains or losses as the market changes from week to week.

QUICKEN V7, QUICKEN FOR BUSINESS, QUICKTAX

Quicken is the most successful personal finance software in the world, with over 12 million users worldwide and 380,000 users in Australia.

It's easy to see why Quicken is so popular. Even if you hate arithmetic, can't add up and are bewildered by money, you'll find Quicken incredibly accessible and (dare I say it) fun. Like switching on a light in a room that's been perpetually gloomy, Quicken shows you in a flash where your money comes from, where it's going and how much is left in the honey pot.

If you own shares or hold other investments, Quicken links directly to the Internet so that you can update share prices, view currency rates and download the latest ASX figures and quotes.

Quicken for Business is the next step up, adding simple invoicing and business reporting. It's good if you're partly self-employed but still have some regular work as well, because you can mix personal and business finances all together and see the big picture.

The final player in this team is QuickTax, a nifty program that helps you complete your tax return. You can use it on its own or hook it up so that it sucks information out of Quicken. Neat auditing and scenario planning tools allow you to diagnose the grim truth of your tax situation in the privacy of your own home. More efficient and infinitely more interesting than wading through the mind-numbing Tax Pack, it's worth checking out.

Entry-level and mid-range accounting

Accounting software presents a whole new language of ideas and terminology, quite distinct from personal finance. No longer concerned with household budgets, shares and school fees, accounting software is about customer invoicing, purchases and Profit and Loss reports. Payroll, inventory, time billing and customised reporting add the icing on the cake, and provide the distinction between entry-level and mid-range accounting.

MYOB FIRSTACCOUNTS, MYOB ACCOUNTING V8

MYOB is an Australian success story, winning award after award every year for its accounting software, with 150,000 registered users in this country alone.

The first in the range is MYOB FirstAccounts, designed specifically for small service businesses. MYOB Accounting expands on FirstAccounts to include inventory, detailed job reporting, additional financial reports and an optional payroll module.

A real winner in MYOB version 8 is OfficeLink, which at a click of a button links MYOB to Excel, Word or WordPerfect. It's a simple but powerful concept. Pull information directly out of MYOB to create a mail-merge in Word chasing overdue accounts or explore a whole new world of custom reporting in Excel, without needing to rekey a single figure.

Inventory remains a weakness with limited pricing and no transaction trail. Payroll could also do with some refinement, although the fact that payroll sits within MYOB (as opposed to being a separate product) is fantastic, making it much easier for small business to find method in its madness, balance wages and print group certificates.

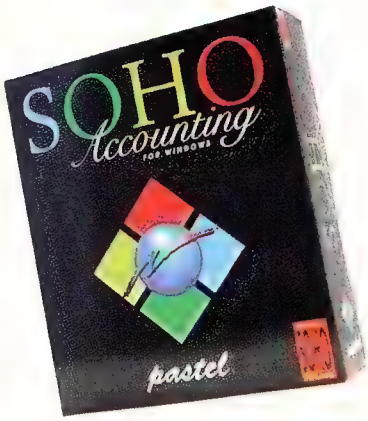
Australian Personal Finance and Small Business Accounting

	PERSONAL FINANCE		ENTRY-LEVEL ACCOUNTING			MID-RANGE SINGLE-USER
PRODUCT	Quicken, QuickTax	Microsoft Money 99	MYOB FirstAccounts	Pastel SOHO	QuickBooks v5	MYOB Accounting v8
SUMMARY	Quicken is ideal for household budgeting and investment portfolios. Quick Tax makes tax time relatively easy and fun.	Simple and accessible, Money helps to organise home finances, draw up budgets and plan for retirement.	Ideal for small service businesses, FirstAccounts offers all the essentials along with excellent support and help resources.	Designed for small service businesses, this accounting software takes a solid but traditional approach.	Accounting software for service businesses. Easy to use, lots of graphs, flexible windows and forms.	Flexible accounting designed for all types of business, with integrated payroll and a clear Australian focus.
CONTACT	Intuit Australia	Microsoft	MYOB Australia	Pastel Software	Intuit Australia	MYOB Australia
PHONE	1800 674 888	13 2049	1800 555 111	1800 024 851	1800 674 888	1800 555 111
WEB SITE	www.intuit.com.au	www.microsoft.com.au	www.myob.com.au	www.pastel.com.au	www.intuit.com.au	www.myob.com.au
PRICE	Quicken $79.95 Quicken for Business $149.95 QuickTax $49.95	$79.95	$199	$199	$199.95	Without Payroll $399 With Payroll $525

MYOB works hard to maintain its reputation and the result is a 100 per cent Australian-focused product, backed up with excellent support, an extensive network of accredited consultants and training courses, and a proactive commitment to the changing needs of small business.

PASTEL SOHO

Pastel SOHO is the baby of the Pastel range, offering invoicing, general ledger, purchases and inventory. It has got a good approachable feel, with nifty Transaction Assistants that walk first-timers through key tasks.



Whilst there's nothing intrinsically bad about Pastel SOHO, it's not really in the same league as either of its main competitors, falling short in features such as job costing, standard reports, electronic payments and many of the little things that make life easier. The whole mind-set of the program is surprisingly old-fashioned, with transactions posted in batches and the inability to fix mistakes once a batch has been posted.

So what's the good news? Inventory management is reasonable, and the open Btrieve structure of the database makes it possible to create custom reports using Crystal. Otherwise, the merits of Pastel SOHO are really to be found in its upgrade path, for the big sister of this range is Pastel Partner, a product with lots going for it.

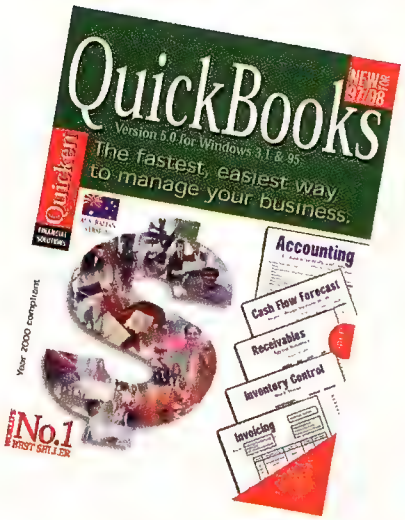
QUICKBOOKS V5, QUICKBOOKS PRO V5

QuickBooks is developed by Intuit and is the number one small business accounting software in the US. It is the entry-level product, offering simple accounting for small service businesses. The next step up, QuickBooks Pro, is almost identical but includes time-billing and job management features.

Both products excel in the way they lead the novice into the world of accounting. Follow your nose and you can progress far with QuickBooks in a short time, entering cheques, sales, purchases and new accounts. Graphics and reports are great, with custom fields, form designer tools and flexible custom reporting. This, along with an optional Developer's Kit, makes for a very adaptable product.

The only downfall to this sense of ease is that it's easy to end up in troubled waters, with a messy chart of accounts, muddled items list, fudged bank reconciliations that can be horribly sticky to clean up, and transactions posted to wrong financial years.

Having said this, the key to success with QuickBooks is to set it up properly and run it as methodically as possible. It's certainly a great choice for



those seeking time-billing management, progressive invoicing or extensive invoice customisation.

Multi-user accounting

What does it mean when your business keeps growing, the phone rings all day and you feel like you need three bodies to match your schizophrenia? It probably means that you need some good multi-user accounting software, software that is capable of running across a network so that more than one person can work on the accounts at any one time.

Sounds easy, but the ability to work across a network is no small distinction when it comes to accounting software. It implies an immediate hike in the price tag and many other factors come into play, such as your choice of network, hardware and consultant. This is the serious end of town and picking the wrong product can be an expensive mistake.

MYOB PREMIER V2

Premier sits at the top of the MYOB range, offering all the features of

MID-RANGE MULTI-USER

QuickBooks Pro v5	MYOB Premier	Pastel Partner	Sybiz Vision Lite	Sybiz Vision
Particularly strong in progressive invoicing, job reporting and time-billing, QuickBooks Pro is ideal for the building industry.	Premier offers affordable and flexible multi-user accounting along with time-billing, links to Excel and Word and excellent documentation.	Pastel Partner includes lots of features for manufacturers, wholesalers, exporters and importers. Good innovative approach.	Open database structure makes for flexible reporting and customisation. Includes optional job costing and point of sale modules.	The full version of Vision offers multi-currency, job costing and up to 50 simultaneous users.
Intuit Australia	MYOB Australia	Pastel Software	Sybiz Software	Sybiz Software
1800 674 888	1800 555 111	1800 024 851	1800 683 783	1800 683 783
www.intuit.com.au	www.myob.com.au	www.pastel.com.au	www.sybiz.com.au	www.sybiz.com.au
Without Payroll $349.95 With Payroll $549.95	$999 for three users	Core product $1000-$5000 Client server $5000-$30,000	Single-user $1750 Multi-user $3450	Typical four-user system Approx $7500

MYOB Accounting plus multi-user capabilities. It's the only multi-user accounting software in this review that doesn't come in modules. Buy Premier, and you get everything: general ledger, purchases, sales, inventory, payroll and so on.

Version 2, which should be available by the time you read this, includes professional time-billing and enhanced inventory. The new time-billing features look great and cater for professionals such as accountants, solicitors or consultants, whilst the enhanced inventory offers multiple sell prices with quantity breaks and discount matrixes.

Premier won't fit every business type. Even with version 2 enhancements, inventory management is still too limited for many wholesalers and manufacturers, with no transaction trails or comprehensive bill of materials. Speed can be an issue across larger networks, although Terminal Server is emerging as a solution to this problem.

If Premier fits your business needs, you'll find it to be the most affordable and user-friendly multi-user software available, as well as coming with fantastic support, training and documentation. It's an obvious choice for small businesses that have "grown up" on earlier versions of MYOB, as well as a worthy consideration for businesses re-evaluating their old accounting systems.

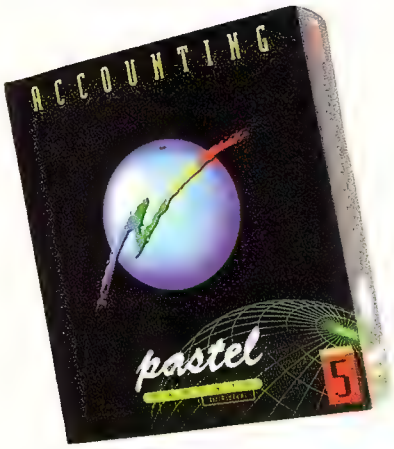
Gaze into your crystal ball

If you're going to invest time and money on software, make sure it's fit to last the distance. Here are some tips on how to avoid buying a dinosaur.

- **How adaptable do you reckon the software is? Be critical and find software that does what you want it to do, not the other way around.**
- **What does the software developer have planned for GST? There's more to GST than meets the eye and if the Senate continues at its current pace, developers will have an excruciatingly short time frame to get ready.**
- **Does this software realise the century is going to end? It's not a good look when customers receive statements telling them they're 99 years behind with payment.**
- **Are electronic banking features built in? Admittedly, Australian banks are dragging the chain, making electronic banking as difficult as they can, but seek accounting software that will talk to your online banking software so you don't end up keying transactions twice.**
- **If your business intends to sell products over the Internet in the near future, look for accounting software that includes an Internet sales order module or link.**
- **Seek innovation and make sure that this software is keeping up with the pace of change. Check out the Web site carefully (hopefully, there'll be a link from within the software itself). See if you can e-mail your customers monthly statements and account details and find out what support is available on-line. Ask the software company about its plans for the future.**

PASTEL PARTNER V5

Pastel Software originates in South Africa but has achieved a growing Australian presence in the last few years. Aimed at companies with five to 50 employees, Pastel Partner version 5 has come a long way since its predecessor, with major changes to its interface and over 1000 new features.



Pastel Partner caters for lots of different business types. It's got full multi-currency features for importers and exporters, flexible inventory and pricing for wholesalers, bill of materials for manufacturers and versatile point of sale for retailers. It's easy to customise, with an ODBC driver and a developer's toolkit. It would be good to see this flexibility filter through to other areas, as general ledger codes remain unchangeable and you can't change entries once transaction batches are posted, but at least users now have the choice whether to work with batches or "real-time".

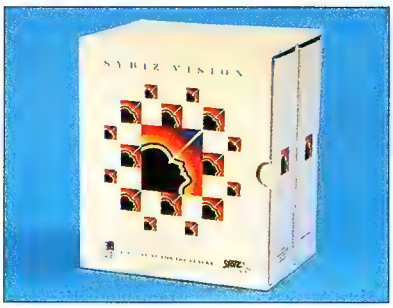
Pastel Partner also comes with integrated e-mail for customers and suppliers and an add-on EzeBank module. The innovative approach, along with competitive pricing, makes it an interesting product indeed.

SYBIZ VISION LITE, SYBIZ VISION

Sybiz has been developing financial software in Australia since 1977, specialising in mid-range accounting and payroll systems. These days Sybiz Software offers two product ranges: Vision and Vision Lite.

Vision Lite comes in either a single or three-user pack, offering as a standard bundle general ledger, creditors, inventory and debtors. Optional extras include point of sale for retailers and job costing for service businesses.

The complete version of Vision offers a choice of 18 modules, including some interesting choices such as clothing and accessories, import costing and telemarketing. The extended multi-user option allows up to 50 people to access the system simultaneously.



Probably the main strength of Vision is its commitment to an open architecture. Sounds like jargon, but what it means is that it's easy to exchange data with other Windows programs such as Excel or Word, and it's also possible to customise the core product itself, adding windows, custom fields or hooking up with other software.

Vision isn't modest with its hardware requirements and you'll need expert set-up and a good network to ensure stability. However, in the right situation, Vision performs well and provides an adaptable and versatile accounting solution. pcw

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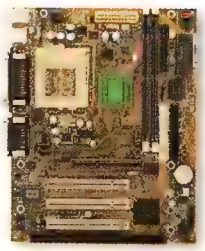

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BOOTH NO. B 536

pc world BEST BUYS

This month, the spotlight falls on LCD monitors. We take a look at six 15in models, showcasing features such as built-in multimedia and touch-screen technology. They're not cheap — you could buy a complete desktop system for the same money — but if you're prepared to splash out, an LCD monitor is a great space-saving alternative to a conventional CRT model.

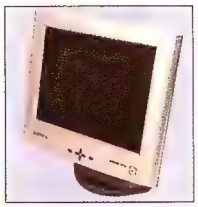
In the PC arena, we look at PIII 500 systems from Also Technology and Pioneer Computers as well as a 433MHz Celeron system from Flexisoft.

On the notebook front, we examine the new IBM i Series ThinkPad, the GES AION 2000 and the Compucon Europa sub-notebook. Price, features and solid build quality see the GES AION 2000 debut in the No.1 position in the Value category. Systems in this group range from $2699 to $3999 while the Power category begins with the Compaq Presario 1660 at $5499 (a price drop of $500 since last month) and rises to $7970 for the Toshiba Portege 7020CT.

We check out two of Hewlett-Packard's DeskJet family of printers — the DeskJet 880C and the DeskJet 710C. The 880C distinguishes itself by providing USB in addition to the standard parallel port interface. The 710C shares a lot of the 880C's characteristics (with the exception of USB connectivity) although it is slower and has a shorter duty cycle. In the laser category we look at the Lexmark Optra E310. The E310's small footprint is ideal for users who require a fully featured business printer that will fit into a confined area.

Among this month's graphics cards is the capable ATI All-in-Wonder Pro. It's an AGP card based on the ATI Rage Pro Turbo processor, and it lets you use your PC as a television and video editing base. Software is plentiful and includes a utility that enables the viewing of Web TV. Other cards include the ATI Xpert Rage 128 (which is based on the ATI Rage 128-bit processor), and the Aztech Riva TNT.

- Spiro Hionis, Test Centre Manager



Your guide to the Best Buys

HOW DO THE CHARTS WORK?

The Best Buy charts are evolving lists of the best computer hardware we've tested. PC and notebook charts are divided by price: Power PCs cost $2250 or more, and Power notebooks cost $4150 or more. Other product categories are divided by price or function. We compare new products to previously reviewed hardware, updating the charts each month to reflect price cuts and other changes.

WHAT ABOUT THE PRICES?

The prices quoted are the recommended retail price, which includes sales tax, as supplied to us by the vendor. Prices and test results are *only* for the system or product *as supplied to us*, not a similar configuration or model that might be available — please note this when discussing prices with vendors. We make every effort to keep pricing and specs current, but it is a good idea to check with the vendor for up-to-the-minute pricing.

HOW ARE PRODUCTS RATED?

All products are ranked according to a Value rating. The Value rating is calculated from scores in the following areas: Overall Quality/Output Quality, Features, Price, Warranty, Service/Support, and Ergonomics/Ease of Use. The weightings assigned to each area for each product category are based on the results of PC World's 1998 Brand Awareness Study, which surveyed the importance these product characteristics to Australian computer users. Performance scores are added to get a final Value rating.

WHAT DO THE BENCHMARKS FOR PCs AND NOTEBOOKS MEAN?

PC WorldBench 98 runs test scripts using real versions (that is, not simulations) of common applications to measure 2D performance. This benchmark tests the speed of the entire system, from the hard drive to the graphics adapter. Applications used are Microsoft Word, Lotus Word Pro, Microsoft Excel, Lotus 1-2-3, Corel Paradox and Micrografx Picture Publisher. The PC WorldBench 98 score is a measure of how fast a system is in relation to the baseline machine, a Gateway PMMX-200 with 32MB RAM, 2GB hard drive and 512K secondary cache. A PC that scores 200, for example, is twice as fast as the baseline system.

Final Reality is a benchmark developed by VNU European Labs and Remedy Entertainment for testing processing power of 3D and 2D graphics, and bus transfer. (You can download it from www.finalreality.com to test your own system.) This benchmark generates a score compared to a baseline system of a Pentium 150MHz (non-MMX) with a S3 Virge/VX graphics subsystem.

pc world BEST BUYS

PCs

BY SPIRO HIONIS AND ELIAS PLASTIRAS

Awesome! That's what we thought of the Also Technology Vogue Power 500, a fully featured machine which is aptly named.

Indeed the Vogue is all power, equipped with a 500MHz Pentium III processor, 128MB SDRAM, a Diamond Viper V550 graphics card and a 10GB hard disk, not to mention the 12MB Voodoo2 and LS-120 disk drive. As expected, the machine was quick. It produced excellent results in PC Worldbench and Final Reality and obtained very high frame rates in Quake II and Forsaken thanks to the 12MB Voodoo2 card. The components are housed in a wide mid-tower case and have been assembled very neatly, with all cabling tied down out of the way. Expansion is handled by one empty 3.5in — and two empty 5.25in — drive bays, and there are two free DIMM slots for memory. If you want to add an extra Voodoo2 card and run them in SLI mode, you can plug it into one of the two free PCI slots.

The machine is equipped with an internal Mitsubishi 56K modem, and includes a pass-through connector which allows you to connect your phone to the computer and use the line for voice calls. Bundled software includes Lotus Smartsuite and IBM AntiVirus. The CD includes 14 game demos that really showcase the games performance of this machine. The LS-120 replaces the standard floppy drive and offers you a capacity of 120MB while still being backward-compatible with regular 1.44MB floppies.

Also Vogue Power 500

The biggest disappointment of this PC is its speaker system, which produces flat sound and lacks a tone control. If you are expecting truly immersive game play, you will require

pc world BEST BUYS Power Desktops

		Last Month	Issue reviewed	Value rating	Price	CPU	RAM (MB)	Hard disk
1	Dell Dimension XPS T500	1	Apr '99	80	$4209	Intel Pentium III 500	128	12.9GB IBM
2	BlueFire HyperStation 400	2	Apr '99	79	$2690	Intel Pentium II 400	64	6.4GB Quantum Fireball EX
3	Also Vogue Power 500	NEW	Jun '99	78	$3385	Intel Pentium III 500	128	8.4GB Quantum Fireball CR
4	Gateway G7-500	3	Apr '99	78	$4796	Intel Pentium III 500	128	18GB IBM
5	Expert Power PII 400	4	Dec '98	77	$2390	Intel Pentium II 400	64	4.3GB Fujitsu
5	BlueFire HyperStation 350	4	Dec '98	77	$2390	Intel Pentium II 350	64	5.1GB Quantum Fireball EL

pc world BEST BUYS Value Desktops

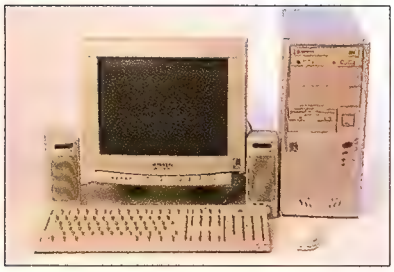
1	Peripherals Plus K6-2 300	1	Oct '98	69	$1495	AMD K6-2 300	64	5.1GB Quantum Fireball EL
2	Also Vogue Deluxe 350	2	Feb '99	67	$1695	AMD K6-2 350	64	6.4GB Quantum Fireball EX
3	Peripherals Plus K6-2 400	4	Apr '99	67	$1795	AMD K6-2 400	64	6.4GB Quantum Fireball EX
4	Leo Persica 800	3	May '99	64	$1795	AMD K6-2 350	32	6.4GB Quantum Fireball EX
5	Flexisoft Celeron 433	NEW	Jun '99	63	$1749	Intel Celeron 433	64	8.4GB Western Digital

a decent set of speakers preferably with a subwoofer system.

The high resolutions and mind-boggling frame rates obtained by this beast are displayed superbly on the 17in Mitsubishi Diamond Plus 71 monitor which utilises Diamondtron aperture grill technology to produce crisp images while supporting resolutions up to 1280 x 1024. This monitor also boasts a viewable area of 16in and has a very user-friendly control interface. The Vogue Power 500 is available from Also Technology (www.alsotech.com.au) and costs $3385. The warranty is for two years parts and five years labour. The machine enters this month's Power category in third position.

The first of the 370-pin Celeron processors we have seen came to us this month courtesy of Flexisoft Computers (www.flexisoft.com.au). This particular system utilises a CPU card, enabling it to plug into a Slot 1 motherboard. The processor is simply inserted into this board which is in turn installed just like a Pentium II processor. Running at 433MHz, this machine clocked 198 in PC WorldBench — a result comparable to a 400MHz Pentium II system. The machine is configured with 64MB SDRAM, has an 8.4GB Western Digital hard disk (which is UDMA/66 ready) and graphics are processed by the VideoExcel i740 video card, which has 8MB of memory. The system is housed in a mid-tower case, which unfortunately lacks an ATX power supply, so there is no soft power off — meaning you have to press the power button to turn off the PC. The case has three 5.25in and three 3.5in drive bays, while the motherboard has four PCI, two ISA and three DIMM slots.

Bundled extras include Lotus Smartsuite, VET AntiVirus and a game demo pack. You also receive a surge protector, which will protect your system from sudden power spikes or surges. A couple of drawbacks with this system are its speakers, and its lack of a second PS/2 port. The motherboard contains an older style AT keyboard connector and has one on-board PS/2 port. This is unused as the system ships

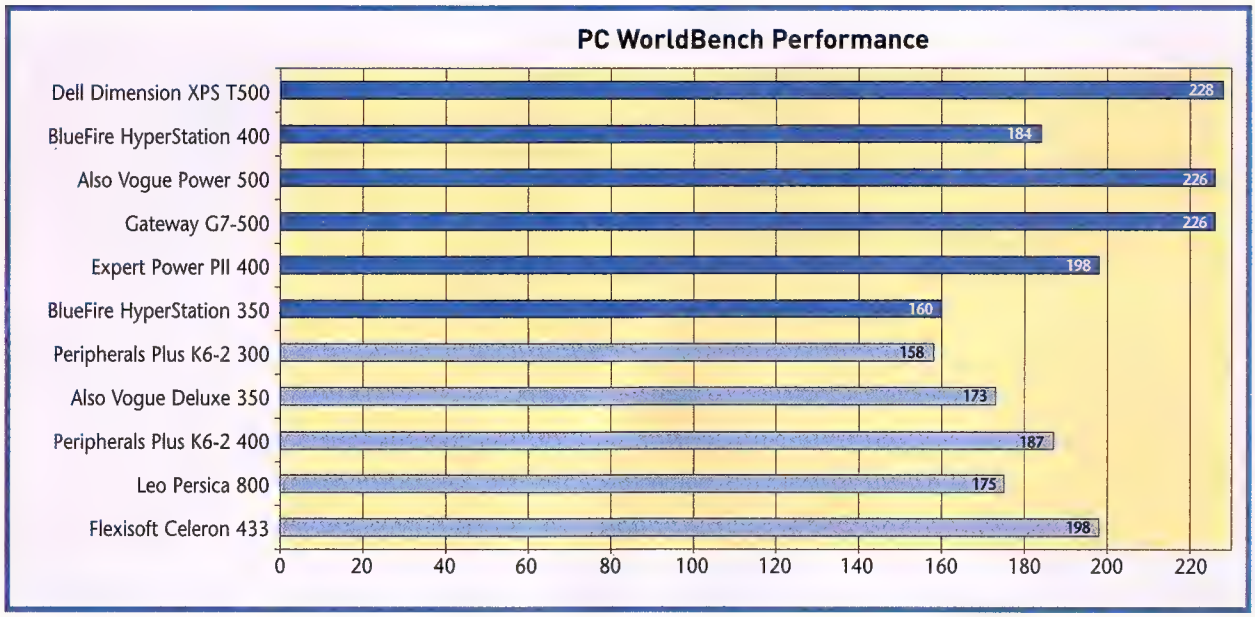


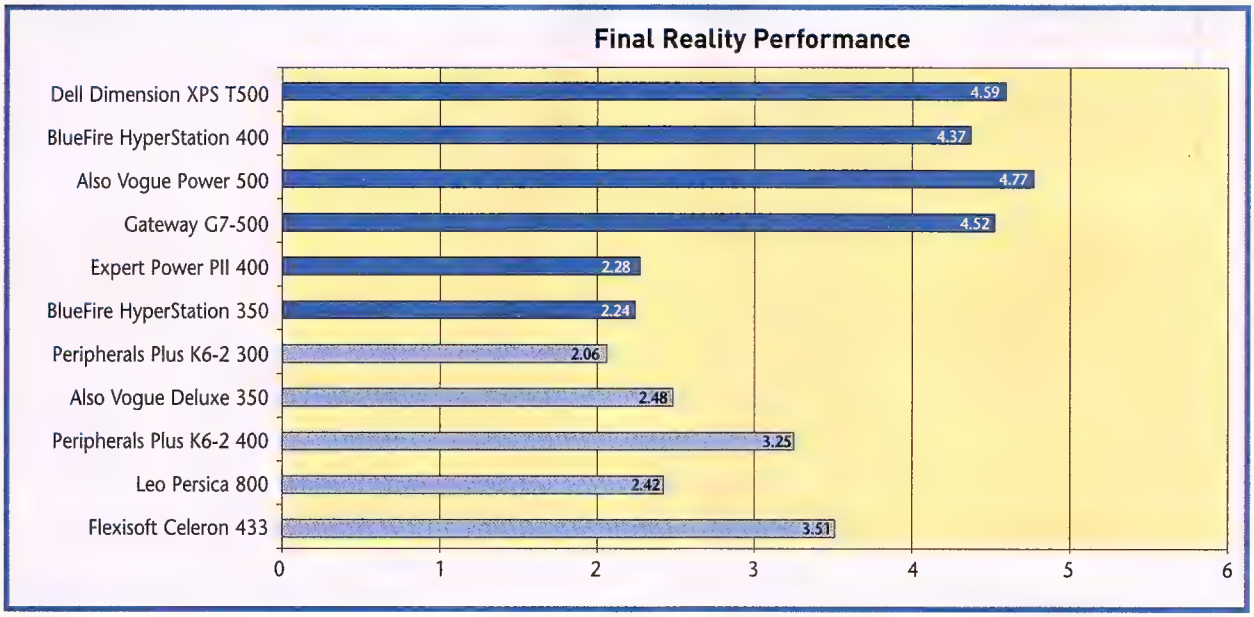
Flexisoft Celeron 433

with a serial mouse. It also unfortunately lacks USB ports, although the motherboard does support them. The Flexisoft Celeron ships with a two-year RTB warranty but has an on-site option which can be purchased for an extra $99. After a year, Flexisoft technicians will even check your PC to make sure that everything is in perfect order, which is good preventive maintenance. For $1749, the 433MHz Celeron machine is good value considering its performance, but for even more grunt look to upgrade the video card.

The third machine we looked at this month was from Pioneer Computers — a high-spec 500MHz Pentium III sport-

Graphics adapter/bus	Video RAM	Monitor	Warranty	Vendor	Phone
STB nVidia RIVA TNT/AGP	16MB SGRAM	17in Dell D1025TM	3 years/1 year on-site	Dell Computer www.dell.com.au	1800 810 678
Matrox Millenium G200/AGP	8MB SGRAM	15in Phillips 105S	3 years on-site	BlueFire www.bluefire.com.au	(02) 9439 4394
Diamond Viper V550/AGP	16MB SDRAM	17in Mitsubishi Diamond Plus 71	2 years parts/ 5 years labour	Also Technology www.alsotech.com.au	(02) 9519 4600
STB nVidia RIVA TNT/AGP	16MB SGRAM	17in Gateway VX700	3 years/ 1 year on-site	Gateway www.gw2k.com.au	1800 500 731
DIT5740/AGP	8MB SGRAM	15in Videocom	2 years on-site national	Datawell Australia	(02) 9748 8688
Trident 3D Image SP975/AGP	4MB SGRAM	15in Panasonic E50i	3 years on-site	BlueFire www.bluefire.com.au	(02) 9439 4394
Trident 9850/AGP	4MB SGRAM	15in Daewoo 518B	3 years (on-site optional)	Peripherals Plus www.perplus.com.au	(02) 9630 3166
Diamond Viper V550/AGP	16MB SDRAM	15in Mitsubishi 1570I	2 years parts/ 5 years labour	Also Technology www.alsotech.com.au	(02) 9519 4600
nVidia RIVA 1 28ZX /AGP	8MB SGRAM	15in Daewoo 518X	3 years on-site national	Peripherals Plus www.perplus.com.au	(02) 9630 3166
3D Labs Permedia 2/AGP	4MB SGRAM	15in Leo BM15	3 years/ 1 year on-site	Leo Online www.leoonline.com.au	1300 650 536
VideoExcel i740/AGP	8MB SDRAM	15in Hyundai DeluxScan 5854	2 years RTB	Flexisoft Computers www.flexisoft.com.au	(03) 9749 8111





ing 128MB SDRAM, a 16MB Diamond Viper V550 graphics card and a 10GB IBM hard disk. This machine outperformed all the machines we've looked at so far in the Best Buys, scoring 229 in PC Worldbench — one point better than the Dell Dimension which tops the Power category. Unfortunately, this machine rates very poorly in terms of software bundling, with only the bare essentials such as the operating system and device drivers supplied. This is an area that Pioneer should look to improve on, because this machine would surely have made the list had more software been provided. The machine ships with a 6x Hitachi DVD-ROM drive, but a DVD player is not installed. We had to install the Zoran SoftDVD program off the Diamond Viper V550 CD-ROM, and even then we could not play DVD movies as the PC was set to Region 6 and we were given no option to change it to Australia's Region 4.

The components are housed in a solid mid-tower case which contains a 250-watt power supply and can accommodate three 3.5in drives and three 5.25in drives, and with four free PCI and two free DIMM slots there is room for expansion. The system ships with a 17in Mitsubishi Diamond View 1772e monitor which provides an excellent picture on its 15.7in viewable area. Unlike the other machines reviewed this month the speakers that ship with this PC are adequately powerful and offer reasonable sound quality. The Pioneer 2000 PIII 500 comes with a two-year parts and five-year labour warranty with an on-site option available. The system costs $3399 and is available from Pioneer computers (www.pioneercomputers.com.au).

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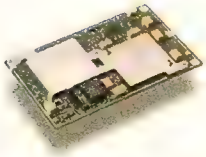
NOTEBOOKS 1300T/1300M Series



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pc world BEST BUYS

Notebooks

This month we look at the IBM ThinkPad i Series, the Compucon Europa sub-notebook and the GES AION 2000. These notebooks represent a variety of feature and performance combinations that target a range of markets. The IBM is aimed at the home business and consumer market — a device with everything you need wrapped up into one neat, efficient and alluring package. The Compucon Europa sub-notebook is for users who desire or require serious computing power in a very small and lightweight package without sacrificing versatility and functionality. The GES AION 2000 is an ideal notebook for the student and "non-power" user. It is solidly built with brand name features, a two-year warranty and a very low price.

GES AION 2000

Speaking of prices, Compaq has dropped the price of its Presario by $500, giving it a boost of four points and retaining its No.2 position in the Power chart. The GES AION 2000 and the IBM ThinkPad i Series debut in the Value chart at Nos.1 and 2 respectively, and in the process finally push the Pioneer 98 KII-300 out of the chart where it has been since last October.

The Compucon Europa looks more like a personal organiser than a fully featured sub-notebook PC, yet it does everything you would expect of a desktop. Whether you need to listen to or watch multimedia files on CD or hook up to the Internet, the Europa will not leave you wanting. Housed within its small case is a special 8.4in touch-screen active TFT monitor. A stylus is used instead of a mouse to make selections, while 16 stencilled

pc world BEST BUYS Power Notebooks

		Last Month	Issue reviewed	Value rating	Price	CPU	RAM (MB)	Hard disk
1	Dell Inspiron 7000 A366LT	1	May '99	73	$7164	Intel Pentium II 366	128	8.0GB
2	Compaq Presario 1660	2	May '99	74	$5499	Intel Pentium II 300	128	4.1GB
3	Toshiba Portege 7020CT	3	May '99	60	$7970	Intel Pentium II 366	64	6GB
4	Acer TravelMate 720TX	4	Apr '99	57	$6299	Intel Pentium II 300	64	6GB
5	Twinhead Slimnote GX	5	May '99	50	$6599	Intel Pentium II 300	64	6GB

pc world BEST BUYS Value Notebooks

1	GES AION 2000	NEW	June'99	60	$2699	Intel 266MMX Tillamook	32	4GB
2	IBM ThinkPad i Series	NEW	June'99	59	$3580	Intel Pentium 300MMX	32	4.3GB
3	Gateway Solo 2500SE	1	Apr '99	57	$2999	Intel Celeron 266	32	2.1GB
4	Gateway Solo 5150SE	3	Mar '99	53	$3999	Intel Pentium II 233	32	2.1GB
5	Twinhead Slimnote VX	4	May '99	51	$3599	Intel Pentium II 266	32	3.0GB

icons on the edges of the TFT afford the user one-touch access to a mixture of both productivity and utility applications. The touch-screen will respond to fingers, but it's best to use the provided plastic stylus housed in the palmrest.

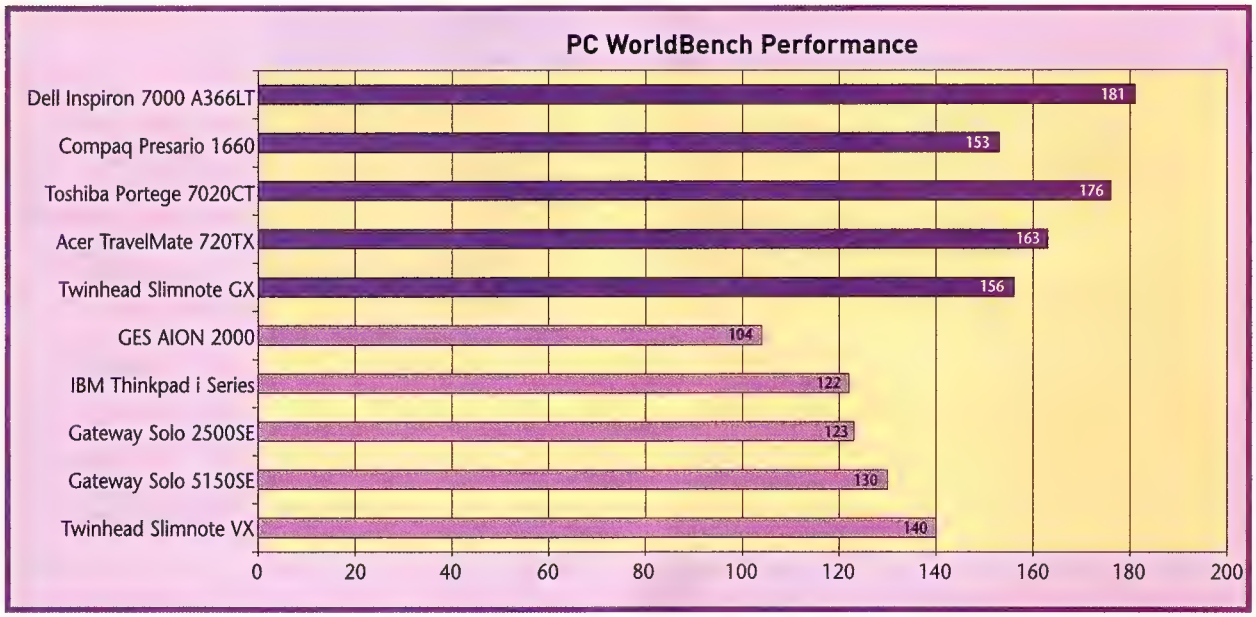
The keyboard is naturally smaller than that of a full-size notebook, yet still fully functional. The CD-ROM and floppy disk drives can be linked to the notebook via proprietary cabling from a connector on the back of the unit. The CD-ROM drive daisy-chains to the floppy disk drive — both are powered by the notebook. The floppy drive also features two USB connectors and 2 PS/2 connectors. The 250 x 168 x 42mm Europa weighs in at 1.1kg and is configured with a 233MHz Intel Pentium processor, 32MB RAM, a 3.2GB hard drive and a 1.1MB NeoMagic 128-bit graphics card. Portable power is supplied by the lithium ion battery, which has a stated life of up to two hours. An optional high-capacity battery will bump this up to a claimed five or six hours. The Europa has a 12-month return to base warranty, ships with its own carry case and is priced at $3399. Its less-than-sparkling performance keeps it out of the chart, although it is ideal for users who value a miniaturised fully featured PC.

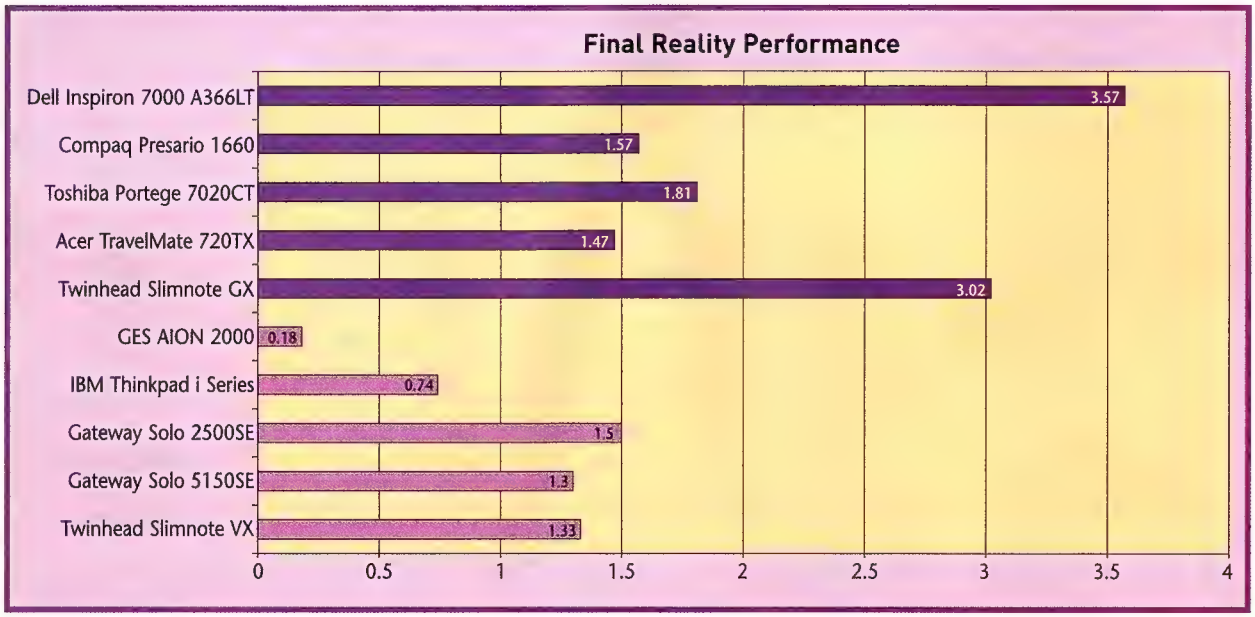
IBM ThinkPad i Series

The IBM i Series has been designed for home business and personal use, and is being promoted as an ideal tool for work, home, school and play. It is a full-sized notebook with a 12.1in active TFT screen. The LCD panel sits in the middle of a generous lid that also houses the Altec Lansing SoundGuide stereo speaker system. The model we looked at had a 300MHz Intel Pentium processor with 32MB SDRAM, a 4.3GB hard drive and a 2MB DRAM graphics adapter. This configuration did not achieve particularly high scores in terms of application or graphics performance, yet it is still more than ample for popular office applications, Internet access and multimedia applications.

The standard 24X CD-ROM drive is part of the i Series "instant audio" system. The drive can be powered up without switching on the computer, allowing you to play music CDs when the system is off and closed. Multimedia components also include 3D graphics, headphone, line-in, line-out and microphone jacks. The unit also offers MPEG-1 playback, a rotary volume control and Zoomed Video support. Other features include a built-in 56K fax modem which gives you Internet access as well as faxing capability (managed by the preloaded

Graphics adapter	Video RAM	Display	Warranty	Vendor	Phone
ATI Rage LT Pro 2X AGP	8MB VRAM	15in Active TFT	1 year RTB	Dell www.dell.com.au	1800 810 678
NeoMagic NM2200	2.5MB SGRAM	12.1in Active TFT	1 year RTB	Compaq www.compaq.com.au	1300 368 369
NeoMagic NM2200	2.5MB SGRAM	13.3in Active TFT	3 years parts & labour	Toshiba www.toshiba.com.au	1800 021 100
NeoMagic NM2200	2.5MB SGRAM	14.1in Active TFT	1 year	Acer www.acer.com.au	(02) 9870 1999
ATI Rage LT Pro	4MB VRAM	14.1in Active TFT	2 years parts & labour/ 1 year screen & battery	Westan www.westan.com.au	(02) 9417 2133 (03) 9563 6775
Chips & Technology	2MB DRAM	12.1in Active TFT	2 years RTB	Digiland www.digiland.com.au	1300 652 005
NeoMagic MagicGraph 128XD	2MB DRAM	12.1in Active TFT	1 year RTB	IBM www.ibm.com.au	1800 815 154
NeoMagic NMG4	2MB DRAM	12.1in Active TFT	3 years limited warranty	Gateway www.gw2k.com.au	1800 500 731
NeoMagic NMG5	2.5MB VRAM	14.1in Active TFT	3 years parts & labour limited warranty	Gateway www.gw2k.com.au	1800 500 731
Trident Cyber 9388	2MB VRAM	12.1in Active TFT	2 years parts & labour/ 1 year screen & battery	Westan www.westan.com.au	(02) 9417 2133 (03) 9563 6775





RingCentral Fax software). IBM is consistently excellent when it comes to bundled software, making hardware such as this notebook an instantly usable tool for profit or play. Priced at $3699, the i Series IBM Notebook is versatile, user-friendly and well priced. It debuts in the No.2 position on this month's chart.

At $2699, the strangely-named GES AION 2000 is the lowest-priced notebook on our charts. It's a fully featured multimedia colour notebook and is ideal for the home user or student who wants cheap portable computing power. Its configuration of a 266MHz Intel Pentium Tillamook processor won't win it any performance awards, but it will happily manage the daily tasks that the home or student user may ask of it. It has 32MB RAM, a 4.3GB IBM hard disk, a 2MB Chips & Technology graphics card, and a 12.1in active TFT screen. Multimedia is delivered via the built-in 24X CD-ROM drive, stereo speakers and the Yamaha 3D sound card with line-in, line-out and microphone jacks. Standard ports include parallel, serial, VGA, PS/2, infra-red, TV/Video-out and two Type II (or one Type III) PC Cards.

Battery Life is approximately two hours and is provided by the lithium ion battery. The RTB warranty is for two years. Despite its low price, the GES AION 2000 is well built and has the feel of a far more expensive system. If high performance is not your top priority and you just need to do some basic computing at home, at work or at school, then the GES AION 2000 is superb value for money. It takes the No.1 spot in the Value category.

The new **PowerSlim** is the new standard in style. Never before has a notebook so streamlined offered so much. It's silver sculpted casing covers a **12.1" TFT** screen, **32MB** memory upgradable to 96MB, a **300MHz** Intel Pentium Processor, 512K Level 2 Cache, CD Rom, FDD and a huge **4.3GB** Hard Drive. It also comes with PCI Stereo sound system with built in speakers and PC card. Weighing in at an amazingly lite **1.6KG** the **PowerSlim** is half the weight of most other notebooks, while sacrificing none of the computing power. So if your looking for the sports car of note books look no further. For more information contact your nearest dealer.

There's more to a Twinhead than meets the eye!

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pc world BEST BUYS

Printers

This month we take a look at a compact 8-page per minute laser printer — the Lexmark Optra E310. We also compare two of Hewlett-Packard's family of inkjet printers — the 8ppm DeskJet 880C and the 6ppm DeskJet 710C.

All three printers make it into the charts, and we see the departure from the Personal Laser chart of the Kyocera Ecosys FS-800 that is about to be replaced by an updated model from Kyocera. The Personal Inkjet chart sees the addition of the HP DeskJet printers, whose scores push the Epson Stylus 740, Epson Stylus 900 and Canon BJC-5000 out of the June chart.

The $899 Lexmark Optra E310 is designed with a space-saving small footprint, making it suitable for users who have limited space yet still need reasonable performance and features. This is the first laser printer we have seen which gives you the option for both parallel and USB connectivity. It ships with 2MB RAM, upgradable to 66MB. It has as standard a 150-page sheet feeder and a duty cycle of 10,000 pages per month, which is very generous for a personal printer. 10,000 pages per month deserves a decent toner cartridge lifespan, which is rated in this case at 5000 pages. If you use the Toner Saver mode when printing, Lexmark claims you can increase the cartridge life by up to 50 per cent.

Paper handling capabilities are diverse, encompassing everything from odd-sized media as small as 3in by 5in to the basic sizes such as A4,

Lexmark Optra E310

pc world BEST BUYS Personal Lasers

		Issue reviewed	Value rating	Price	Rated engine speed (ppm)	Standard RAM	Max Resolution (DPI)
1	NEC Silentwriter SuperScript 870	Dec '98	75	$755	8	2MB	600 by 600
2	Samsung ML-5000A	Apr '99	68	$599	8	4MB	600 by 600
3	Lexmark Optra E310	NEW	66	$899	8	2MB	600 by 600
4	Brother HL-1050	Feb '99	64	$852	10	4MB	1200 by 600
5	Brother HL-1040	Dec '98	64	$639	10	2MB	600 by 600

pc world BEST BUYS Personal Inkjets

1	Epson Stylus Color Photo 700	Dec '98	65	$449	n/a	64KB	1440 by 720
1	Lexmark 3200 Color JetPrinter	Apr '99	65	$399	6	n/a	1200 by 1200
2	HP DeskJet 880C	NEW	62	$599	8	2MB	600
3	Canon BJC-4310SP	Dec '98	61	$239	4.5	n/a	720 by 360
3	HP DeskJet 710C	NEW	60	$349	6	512KB	600

HP DeskJet 710C

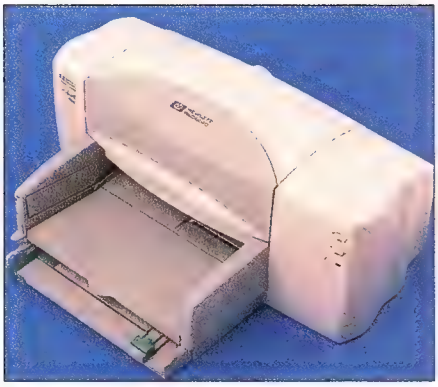
A5, B5, letter and legal. Transparencies, paper labels, envelopes and cardstock are also supported. The printer driver itself is quite comprehensive giving great control over graphic quality, paper size, fonts, overlays and watermarks.

The MarkVision software that ships with the E310 is a printer management utility which is capable of controlling multiple printers. It oversees printer security with password protection and when used with a multimedia system gives the user audio feedback regarding print status. (MarkVision talks to you and tells you when to load paper or envelopes, or close the printer's front cover, or when the toner is low.) The printer ships with a parallel cable, toner cartridge, user guides and software on CD-ROM. Combine all this with the 12-month LexExpress warranty and you get excellent value for money. All this places the Optra E310 into the No. 3 position on the Personal Laser chart.

Both the $599 DeskJet 880C and the $349 DeskJet 710C print well on plain paper and share the same dimensions: 446 x 355 x 190mm, weighing in at 5.5kg. Shared technology includes the HP PhotoREt II colour layering technology which facilitates the production of photo-quality output.

This combines with HP ColorSmart II that helps to reproduce screen colours more faithfully on paper. Both printers also use the same black ink cartridge and tricolour cartridge. They have the same paper handling capabilities — 100-page input trays, 50-page output trays and the ability to cater for sheets, transparencies, banners, labels, envelopes and cards.

When it comes to duty cycles the DeskJet 880C can handle 2000 pages per month — twice the stamina of the DeskJet 710C. Other configuration differences include 2MB of memory standard and 8ppm for the DeskJet 880C, and 512K of memory and 6ppm for the DeskJet 710C. The biggest difference is in the area of connectivity. The 880C can be connected via a parallel interface or USB.



HP DeskJet 880C

In common with most DeskJet printers, these are very user-friendly. First there is a double-sided poster that makes setup a no-brainer by explaining in graphic detail how to set your printer up. I set the DeskJet 880C up as a USB printer first and it worked exactly as the instructions said it would. Software installation places an icon on the Windows 98 desktop which activates the DeskJet 880C toolbox. This comprises an online troubleshooting section and a printer services section. (Parallel setup is quicker than USB setup.)

The CD does not autostart — you have to activate setup from the Windows *Run* menu. The driver is excellent and gives three options for print quality: "Best" quality takes approximately twice as long to produce output as "Normal" mode. The lower quality setting is noticeably different, but still adequate for most uses. "Economy" mode is twice as fast as Normal mode and is ideal for printing proofs.

Warranty	Vendor	Phone
3 years	NEC Australia www.nec.com.au	131 632
1 year	World's Best Technology www.worldsbesttech.com.au	1300 362 363
1 year exchange	Lexmark www.lexmark.com	(02) 9930 3500
1 year	Brother www.brother.com.au	(02) 9887 4344
1 year	Brother www.brother.com.au	(02) 9887 4344
1 year	Epson www.epson.com.au	(02) 9903 9000
1 year LexExpress replacement	Lexmark www.lexmark.com	(02) 9930 3500
1 year	Hewlett-Packard www.hp.com.au	1800 339 862
1 year	Canon www.canon.com.au	(02) 9805 2000
1 year	Hewlett-Packard www.hp.com.au	1800 339 862

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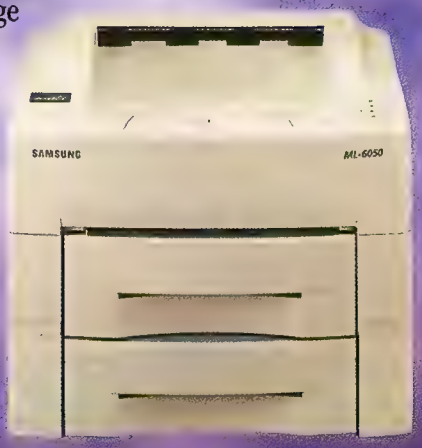
- 1-sheet Manual Feed slot
- 5,000 page One-piece Toner & Drum at 5% Coverage

ML-5000A RRP $599

12 PPM Laser

- 12ppm/600dpi
- 33MHz CPU/ 4MB Memory Standard Option MAX 36MB
- 250-sheet (Input) / 250-sheet (output)
- 1-sheet Manual Feed slot
- 5,000 page One-piece Toner & Drum at 5% Coverage



ML-6050 RRP $899

ML-7000 RRP $1599

17 PPM Laser

- 17ppm/600dpi
- 100MHz CPU/ 4MB Memory Standard Option MAX 68MB
- 500-sheet (Input) / 250-sheet (output)
- 100-sheet multi-purpose feeder
- ***Duplex unit standard feature***
- 8,000 page One-piece Toner & Drum at 5% Coverage

pc world BEST BUYS

Graphics Cards

June sees the charts change yet again with some price drops, one price hike, the departure of two cards and the appearance of three new entrants. The three new cards are the ATI All-in-Wonder Pro, ATI Xpert Rage 128 and the Aztech Riva TNT. The Aztech Riva TNT made its debut at the No.4 position in the chart and has the distinction of being the lowest-priced Riva TNT-based card entered so far in the review. It has 16MB SDRAM, full 2X AGP support and a 12-month warranty. The bundled CD contains drivers for Windows 95 and 98 as well as a software MPEG/DVD player.

The $281 ATI Xpert Rage 128 is based on the ATI Rage 128 chip set and ships with 16MB SDRAM. This chip set doesn't quite match the performance of the Riva TNT or 3Dfx Voodoo Banshee-based cards, but it still provides 128-bit 3D performance, full-screen and full-frame video playback as well as full support for Direct3D and OpenGL. Bundled software and a five-year warranty completes the package.

Perhaps the most interesting is the PC-to-TV transforming ATI All-in-Wonder Pro. Priced at $399 and part of the hardware reference platform for the design of Windows 98, this card performs a variety of tricks such as enabling Web TV for Windows 98 when used in conjunction with the built-in TV tuner. It also provides greater control than a normal TV when viewing NTSC TV on your desktop, such as close-ups and instant replay. The AV-in and AV-out ports allow you to connect to a VCR or TV with the supplied cables, enabling the capture of still and moving images or output directly to a TV. As almost everybody has a TV that's bigger than their monitor, this card is ideal for gamers looking for large-screen action. Four games are bundled with the card covering sport, war, strategy and education. ATI also shows good form in the ease-of-setup department

ATI All-in-Wonder Pro

by including, apart from the manual, a fold-out hardware, software and cabling guide to minimise confusion. Despite all these goodies it recorded the lowest performance index in the chart and is the priciest card, which explains its debut position at No.8.

There have been some big price drops since April, most noticeably the Creative Graphics Blaster which maintains its previous No.7 position by dropping $150 (from $399 to $249), giving it four additional value rating points. The ASUS AGP-V3400TNT/TV drops $83 (from $348 to $265) and the Octek Voodoo Banshee drops $100 (from $299 to $199).

These price reductions will help vendors clear stock in preparation for the imminent arrival of new graphics card chip sets — the TNT2 and Voodoo3.

pc world BEST BUYS Graphics Cards

		Issue Reviewed	Value Rating	Performance index	Price	Chipset	RAM (MB)	BUS	Warranty	Vendor	Phone
1	Hercules Dynamite TNT	Apr '99	84	15.6	$299	nVidia Riva TNT	16MB SDRAM	AGP	5 years	Peripherals Sources International	(03) 9878 8611
2	Diamond Viper V550	Dec '98	77	14.2	$349	nVidia Riva TNT	16MB SDRAM	AGP 2x	5 years	Chips and Bits	(03) 9696 1911
3	Hercules Terminator Beast	Dec '98	77	12.1	$169	S3 Savage 3d	8MB SDRAM	AGP	5 years	Peripherals Sources International	(03) 9878 8611
4	Aztech RIVA TNT	NEW	77	13.2	$235	nVidia Riva TNT	16MB SDRAM	AGP 2x	1 year	Natcomp Australia	(02) 9712 0099
5	Aopen PA2010 3Dfx Banshee	Apr '99	75	14.3	$245	3Dfx Voodoo Banshee	16MB SDRAM	AGP	14 months	Servex Australia	(02) 8762 3500
6	ATI Xpert Rage	NEW	75	11.4	$281	ATI Rage 128	16MB SDRAM	AGP 2x	5 years	Servex Australia	(02) 8762 3500
6	ASUS AGP-V3400TNT/TV	Feb '99	74	12.9	$265	nVidia	16MB SDRAM Riva TNT	AGP	1 year	Integral Computers	(02) 9476 0628 (03) 9580 4088
7	Creative Graphics Blaster	Dec '98	74	15.1	$249	nVidia Riva TNT	16MB SDRAM	AGP 2x	1 year	Creative Pacific	(02) 9906 8887
8	ATI All-In-Wonder Pro	NEW	72	8.9	$399	ATI Rage Pro Turbo	8MB SDRAM	AGP 2x	5 years	Servex Australia	(02) 8762 3500
9	Aztech VGS3D Graphics Accelerator	Apr '99	71	12.5	$169	S3 Savage 3d	8MB SDRAM	AGP	1 year	Natcomp Australia	(02) 9712 0099
10	Octek Voodoo Banshee	Feb '99	71	15.0	$199	3Dfx Voodoo Banshee	16MB SDRAM	AGP	1 year	Ocean Office Automation	(02) 9748 6788

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pc world BEST BUYS

LCD Monitors

If you try a monitor with a tiny footprint, that's easier on the eye while weighing less and exuding less radiation, you'll know you're peering at monitor technology's latest gift to the desktop — the LCD panel. Desktop or wall-mountable versions of the screens you see on notebook computers, LCD panel monitors don't come cheap, but they do have some great features and advantages. They perform best at their native resolution (1024 x 768) and a 15in LCD monitor gives you pretty much the same viewable screen area as most 17in CRT monitors.

The key advantages are:

- They take up far less desk space, which saves money for companies whose large CRTs are currently wasting acres of desk space.
- They use less electricity. According to one manufacturer's estimates, if you were to run a 15in LCD display and a 17in CRT display eight hours a day for a year, the LCD would use about $80 less electricity. Not much for a single unit, perhaps, but a significant difference if your office is stacked full of monitors.
- They are all excellent at displaying images without the geometric distortion that has plagued CRTs.
- They emit very little radiation.

Our June Monitors Best Buy focus is exclusively on 15in LCD monitors in order to give you a rundown of the latest breed of pixel pushers. The six monitors in the review collectively highlight features such as multimedia, OSD and touch-screen technology. The monitors that caused a considerable amount of movement in our Best Buys chart are the Philips Brilliance 151AX; the Samsung SyncMaster 520TFT; the Panasonic LC50s; the Hitachi CML-150XE; the AcerView FP551 and the Compucon LCD-1501T. We see the Philips, Samsung, Panasonic and Hitachi enter the charts and knocking out the 14in, 15in and 18in Mitsubishi Diamondcrysta range as well as displacing the Shamrock F401 despite its price drop to $1450.

WHO'S BUYING LCD MONITORS?

According to a recent IDC report, sales of desktop LCD monitors in 1998 made up 0.3 per cent of total monitor sales. According to the same report, the most popular screen size was 15in and the most popular brands were Panasonic and NEC. Most of these sales were made in the medical and financial fields, and in the top end of the personal user market. The report suggests that LCD monitors are infiltrating retail environments as well as corporate offices, where they are used in call centre applications and as a prestige item in reception areas and in the offices of senior executives.

CAN YOU SEE IT NOW?

These types of monitors are different from the standard cathode ray tube variety because they use a panel filled with liquid crystal and transistors instead of a picture tube. This is what allows them to lose weight, use less power and minimise radiation. The biggest drawback of LCD screens used to be that they couldn't match the viewable angles of conventional monitors (look at an LCD from the far left or far right and you could barely tell whether the screen was on or off). This is being addressed by the manufacturers. Hitachi has made exceptional progress in this area and has patented what they call Super-TFT — a technology that proved in our tests to provide the best wide-angle viewability of all the monitors tested.

OSD

The on-screen display (OSD) is now the preferred method of controlling and manipulating the way your monitor lets you see things. Many types of controls and adjustments which were once the exclusive domain of the monitor technician and only accessible from the inside of the monitor are now at your fingertips. Usually a button on the monitor will invoke the OSD, and then via a series of menus, most monitors will let you adjust the geometry of the screen as well as some aspects of the colour. Other advanced controls include the ability to adjust your monitor's pixel clock and phase. Naturally, to anyone but the very experienced user

continued on page 114

pc world BEST BUYS 15in Monitors

		Issue reviewed	Value rating	Price	Viewable Area (inches)	Dot Pitch (mm)	Maximum Vertical Refresh (Hz)	Maximum Resolution	Warranty	Vendor	Phone
1	Mitsubishi Diamond View 1570i	Dec'98	64	$399	13.6	0.28	120	1280 x 1024	3 years on-site	Mitsubishi Electric Australia www.mitsubishi-electric.com.au	(02) 9684 7777
2	Panasonic E50i	Dec'98	64	$450	13.8	0.27	120	1280 x 1024	3 years RTB	Panasonic www.panasonic.com.au	(02) 9417 5233 (03) 9558 9788
3	Prodigy 5GlrA	Dec'98	63	$345	13.8	0.28	120	1280 x 1024	3 years on-site	Integral Computers www.integralcomputers.com.au	(03) 9580 4088
4	AcerView 57c	April'99	63	$435	13.8	0.28	120	1280 x 1024	3 years on-site	Servex Australia www.servex.com.au	(02) 8762 3500

pc world BEST BUYS 17in Monitors

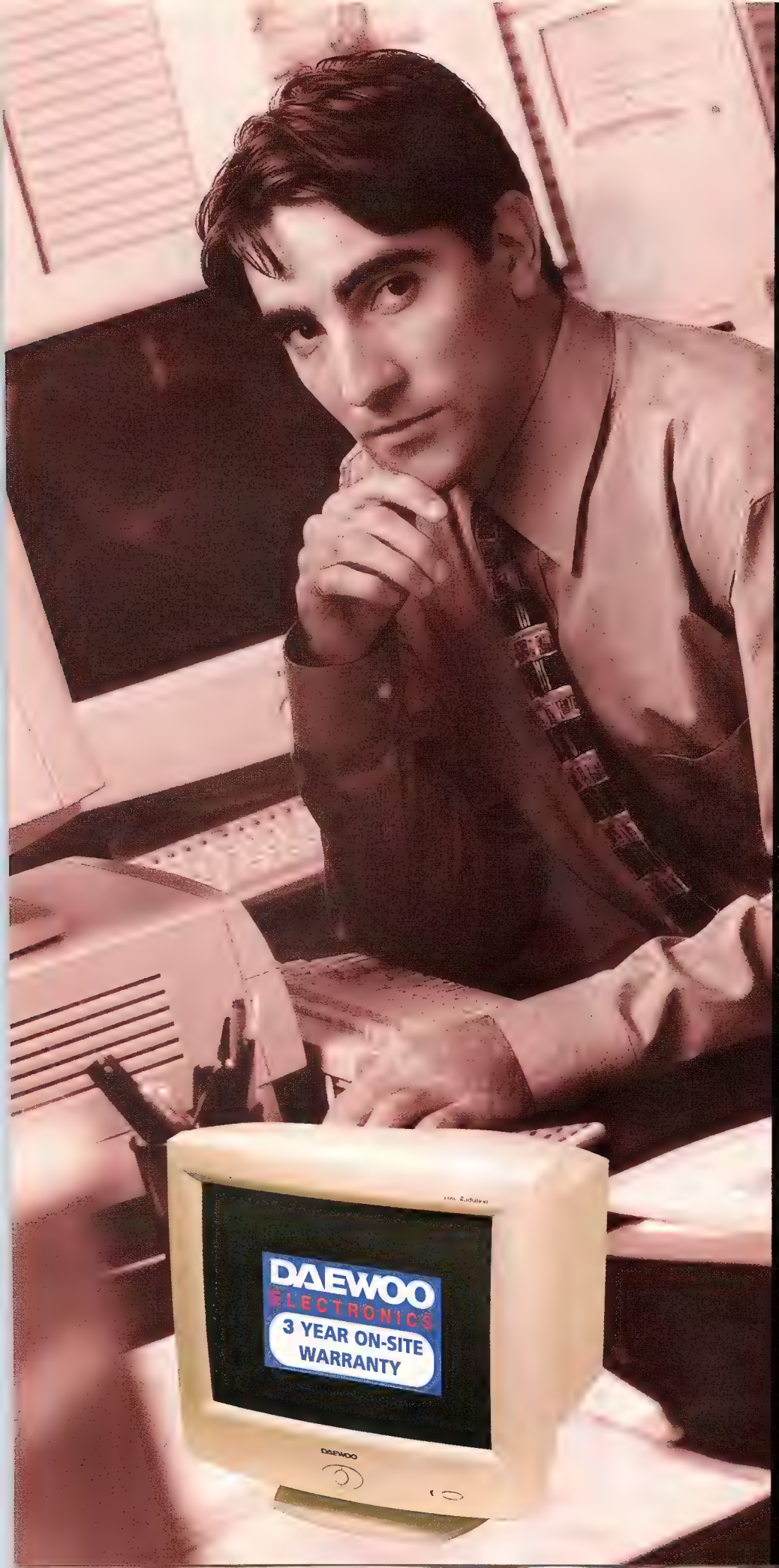
1	Mitsubishi Diamond View 1772e	April'99	75	$649	15.9	0.27	120	1280 x 1024	3 years on-site	Mitsubishi Electric Australia www.mitsubishi-electric.com.au	(02) 9684 7777
2	ViewMaster M1738NF	Dec'98	68	$599	15.75	0.25	150	1600 x 1200	3 years on-site	Hallmark Computer International www.hallmark.com.au	(03) 9540 8555 (02) 9748 8811 (08) 8340 3740
3	Prodigy 7GlrA	Dec'98	66	$595	16	0.26	130	1600 x 1200	3 years on-site	Integral Computers www.integralcomputers.com.au	(03) 9580 4088
3	AcerView 79g	April'99	66	$999	16	0.25	160	1600 x 1200	3 years on-site	Servex Australia www.servex.com.au	(02) 8762 3500
4	ViewSonic PT775	April'99	65	$1409	16.1	0.25	180	1600 x 1200	3 years on-site	Chips & Bits www.chips.com.au	(03) 9696 1911
4	Sony CPD200GS	April'99	65	$1390	16	0.25	120	1600 x 1200	3 years on-site	Sony Australia www.sony.com.au	(02) 9887 6666

pc world BEST BUYS 19in Monitors

1	Mitsubishi Diamond View 1995	April'99	72	$1299	18	0.26	160	1600 x 1200	3 years on-site	Mitsubishi Electric Australia www.mitsubishi-electric.com.au	(02) 9684 7777
2	Sony GDM400PS	April'99	71	$2190	18	0.25	160	1600 x 1200	3 years on-site	Sony Australia www.sony.com.au	(02) 9887 6666
3	Hitachi CM-753	Feb '99	71	$1670	18	0.22	160	1600 x 1200	3 years RTB	Hitachi Australia www.hitachi.com.au	1800 032 689
4	ViewSonic G790	Feb '99	68	$1459	18	0.26	180	1600 x 1200	3 years on-site	Chips & Bits www.chips.com.au	(03) 9696 1911
5	CTX VL950	Feb '99	58	$1099	18	0.26	160	1600 x 1200	3 years limited on-site	Ocean Office Automation www.ocean.aust.com	(02) 9748 6788

pc world BEST BUYS LCD Panel Monitors

1	Philips Brilliance 151AX	NEW	70	$2299	15	N/A	75	1024 x 768	3 years on-site	Philips www.philips.com.au	1800 658 086
2	ViewSonic ViewPanel VPA145	Apr '99	69	$2599	14.5	N/A	75	1024 x 768	3 years on-site	Chips & Bits www.chips.com.au	(03) 9696 1911
3	DMC PureView P615U	Apr '99	67	$1899	15	N/A	85	1024 x 768	1 year RTB	Digiland www.digiland.com.au	1300 652 005
4	Samsung SyncMaster 520TFT	NEW	66	$2547	15	N/A	75	1024 x 768	3 years RTB, 1 year Back Light	Samsung Electronics Australia www.samsung.com.au	(02) 9763 9700
5	Panasonic LC50s	NEW	63	$2600	15	N/A	75	1024 x 768	3 years RTB	Panasonic Australia www.panasonic.com.au	132600
5	Hitachi CML-150XE	NEW	63	$2795	15	N/A	85	1024 x 768	1 year RTB	Hitachi Australia www.hitachi.com.au	1800 032 689



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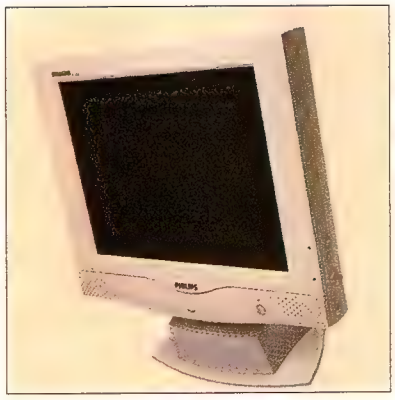
SAMSUNG SYNCMASTER 520TFT

This is a sleek, likeable piece of equipment that distinguishes itself aesthetically from the rest of the monitors by its conspicuously "non-beigeware" appearance. The main bezel has the appearance of anodised gunmetal with a clover-shaped control key layout.

The OSD is invoked by a button on the bezel and controls everything from colour temperature to screen position as well as brightness and contrast. On the base of the monitor is the multimedia component that includes two stereo speakers, a built-in microphone as well as line-out and microphone jacks on the back. Picture quality is quite good with the exception of a very slight colour registration problem.

The viewability of the screen from an angle was adequate, but not as good as expected. Screen size is exactly 15in and looks best with the native resolution of 1024 x 768. Sound quality is marginally better than most notebook computers and definitely better controlled via the separate volume, treble and bass rotary controls.

Screen Size:	15in
Multimedia:	Built-in microphone and stereo speakers; separate volume, treble and bass controls.
Interface:	Standard VGA connector. Separate line-in and microphone jacks
Pros:	Looks good on the desk, easy-to-use controls, multimedia built-in
Cons:	Two pixels died during testing, angle-viewability average
Price:	$2547
Web:	www.samsung.com.au



PHILIPS BRILLIANCE 151AX

The 151AX is a multimedia LCD monitor with a native resolution of 1024 x 768. The bezel houses the microphone and speakers as well as the controls to manipulate the screen image. The controls are actually on the right-hand side of the bezel and include an auto-button feature to cater for different pre-programmed user settings. This Plug and Play monitor boasts a low weight of 5.3kg, power usage of 38 watts maximum, has 14 factory preset modes and allows another 10 user-definable modes. The screen display is quite good, although we noticed some very minor streaking and ghosting in some instances. Angle viewability is also quite good as you can view the displayed image without losing detail almost to the claimed 160 degrees. The microphone is placed centrally in the base of the bezel for easy access. Multimedia cables, eg microphone and speaker are clearly labelled and permanently connected to the back of the base.

Size:	15.1in
Multimedia:	Built-in microphone and stereo speakers; rotary volume control; headphone jack
Interface:	Standard VGA connector; USB bay for optional USB ports; Kensington lock
Pros:	Kensington Lock; USB option; wide-angle viewability; Macintosh-compatible; multimedia; three-year 24-hour hot-swap warranty
Cons:	Some streaking and ghosting apparent during testing; location of controls
Price:	$2299
Web:	www.philips.com.au/pcperipherals

HITACHI CML-150XE

Hitachi has been manufacturing colour monitors since 1963, so it comes as no surprise that the picture quality on the CML-150XE is superb. Wide-angle viewability is also amongst the best to pass through the Test Centre.

All this is due to Hitachi's Super-TFT technology that basically rearranges the way the pixels display in a TFT to improve and increase the viewable angle of the monitor.

The CML-150XE is also aesthetically pleasing. The trapezoid bezel has centred control buttons for the OSD at its base.

The dark grey base contrasts nicely with the rest of the monitor making it an ideal candidate for front office and reception area use. The deceptive design of the bezel and base gives the impression that the CML-150XE is a smaller screen than its actual 15in. But don't be fooled. This is a 15in display that looks best at a resolution of 1024 x 768 at up to 85Hz.

Size:	15.1in
Multimedia:	None
Interface:	Standard VGA connector
Pros:	Superb picture quality and wide-angle viewability; three-year warranty
Cons:	No multimedia capability; doesn't swivel on its vertical axis; price
Price:	$2795
Web:	www.hitachi.com.au

ACERVIEW FP551

In common with most LCD panel monitors, the AcerView FP551 is a Plug and Play monitor that is recognised by Windows the minute it is powered up after installation. There is no multimedia capability. The monitor ships with the standard VGA connector and an external power supply, and because the power supply is not part of the base it appears that the footprint is smaller.

The unit's principal control button is bound to endear the FP551 to technophobes. Called the "i key", it's for anyone who is frightened by the prospect of making adjustments to the pixel clock (which may sound like a medical procedure) while changing your horizontal and vertical position and then doing a little job on your colour temperature.

If this all sounds meaningless, it doesn't matter — the i key will take care of everything for you. Other features include an auto-scaling function that will automatically adjust full screen images for optimum display. The unit weighs in at 5.8kg, has a maximum power consumption of 36 watts and ships with a 12-month return to base warranty.

Screen Size:	15.1in
Multimedia:	None
Interface:	Standard VGA connector
Pros:	Very good picture quality; the "i key"
Cons:	No multimedia capability; doesn't swivel on its vertical axis
Price:	$2499
Web:	www.api.com.tw

PANASONIC LC50S

The LC50s is a full-featured multimedia monitor with USB connectivity. It has a 15in screen which is manipulated by an OSD controlled by an eight-button control pad located centrally at the bottom of the bezel.

The menu options cover everything from colour temperature to screen geometry while three buttons on the control panel are dedicated solely to the monitor's sound capabilities. A headphone jack is included and is placed for easy access on the bezel next to the control buttons. The unit does not incorporate a microphone. Picture quality is quite good and the controls are easy to use in order to optimise the screen picture.

The LC50s also provides excellent wide-angle screen views. USB connectivity is standard. The LC50s is justifiably priced at $2600 with a three-year return to base warranty and the option of on-site warranty.

Screen Size:	15in
Multimedia:	Stereo speaker system based on bass reflex technology; headphone jack; volume up, volume down and mute buttons all on bezel
Interface:	Standard VGA connector; USB
Pros:	Good picture quality; excellent wide-angle viewability; multimedia; built-in USB connectivity; three-year warranty
Cons:	No microphone
Price:	$2600
Web:	www.panasonic.com.au

COMPUCON LCD-1501T

The Compucon LCD-1501T has just about everything. The unit boasts 15in of viewable screen area, has stereo speakers, a built-in microphone, USB ports, even touch-screen capabilities. The latter is quite difficult to set up, and we only succeeded once a Compucon technician arrived on the scene.

The LCD-1501T appears to be a solidly-built device, although the cabling is unusual. The monitor data cable, the power cable as well as the microphone and speakers cable all run within the same sheath, which might explain some problems we experienced with the signal. The speakers work well enough, although we wouldn't recommend that they be played at full volume.

Picture quality is above average and wide-angle viewability is very good. Control buttons for the OSD are located along the rear right-hand side of the bezel and take a little getting used to. The OSD itself is not as comprehensive as some of the others tested but it does afford adequate control over the image display.

Screen Size:	15in
Multimedia:	Stereo speaker system; headphone jack
Interface:	Standard VGA connector; USB
Pros:	Good wide-angle viewability; USB connections; multimedia speakers; touch-screen
Cons:	Problems with microphone; fiddly touch-screen configuration; all cables running in one sheath
Price:	$2699
Web:	www.compucon.com/15inLCD.htm

this could be a recipe for disaster, which is why most OSDs are now starting to offer auto-adjustment options which let the monitor automatically adjust itself to best suit what you are doing.

MULTIMEDIA

Like their CRT cousins, LCD monitors often ship with multimedia capabilities. Four of the six monitors we looked at include multimedia features. These are the Compucon, the Philips, the Panasonic and the Samsung. Of these four only the Panasonic does not have a microphone, while the Philips is lacking a headphone jack. In general, the speaker systems provide sound that is just as good if not better than most notebook computers. Keep in mind that a sound card is required to enjoy the benefits of multimedia, which in turn raises the question of why would you need multimedia on your monitor if you already have a sound card-equipped PC! The answer may be to rid your desktop of extra speakers and microphones that clutter up space.

PRICES

Of the monitors we received for review — from Panasonic, Hitachi, Philips, Acer, Samsung and Compucon — prices range from $2299 for the multimedia Philips Brilliance 151AX to $2795 for the Hitachi CML150XE. As you've probably noticed, the prices of these monitors are approximately three times the price of equivalent 17in CRTs. And don't expect prices to drop significantly any time soon. If IDC's projections are correct, LCD panels will only constitute 1.7 per cent of the monitor market as far ahead as 2003, so there will be little pressure to drive prices down.

WARRANTY

The Acer, Hitachi and Compucon ship with one-year warranties, while the Samsung, Philips and Panasonic have three-year warranties. If warranty is a major issue for you, note that the Philips three-year warranty offer is more generous than the rest: if you have a problem, they say they will replace the defunct unit with a brand new monitor anywhere in Australia within 24 hours. pcw

Counting the cost of LCD

Tight screen supply will keep prices high, Rob Guth reports from Japan

Several makers of TFT LCDs will boost their production over the next few months, but a shortage in the flat-panel screens is likely to continue into next year.

Representatives at Matsushita Electric Industrial and Hitachi say they are each earmarking new money to increase production of TFT LCDs, which are used in notebook PCs and increasingly as displays for desktop PCs.

An over-capacity in TFT LCDs last year hit the vendors hard, dropping prices of the screens to record lows. Now, however, the market has reversed — tight screen supply has allowed most major producers to boost screen prices over the past few months. A standard 12in TFT LCD module in the second half of last year averaged $US250 and is now selling for about $US320, according to Hiroyuki Yoshida, a research manager at market researcher IDC Japan. A standard 12in screen by late this year will be priced around $US350, Yoshida estimated.

Some vendors are now ramping up production to meet fresh demand. Others, however, are more cautious, holding investment levels until they can better read whether the demand will last, officials and spokesmen at the companies said.

The upshot will be a steady growth in screen supply, according to IDC's Yoshida. By year-end, worldwide production of TFT LCDs will reach 36.5 million units, up from 26.1 million units in calendar 1998. Yoshida predicted that prices should flatten out later this year, while TFT LCD supply will continue to lag behind demand into next year, he said.

While Sharp, the world's largest maker of TFT LCDs, will contribute a large portion of this year's supply, Matsushita, in a renewed effort to grow its TFT LCD business, will invest up to 20 billion yen ($A281 million) this year to boost its monthly production of screens to 280,000 units by late this year, according to Akira Kadota, senior coordinator at Matsushita's public relations group. Matsushita currently produces about 170,000 TFT LCDs per month.

Sharp will keep its investment level from last year, according to an official at the Osaka-based electronics company. Toshiba and NEC have not released their TFT LCD plans.

"We are considering an increase in investment over the last year, but we have not decided," said Keisuke Ohmori, a spokesman at Toshiba.

"People are cautiously optimistic at the moment," said a spokesman at NEC. The spokesman said the company's TFT LCD plants are running at full capacity and NEC may upgrade some manufacturing equipment but he emphasised that the company hasn't set its investment plans for the current fiscal year.

Some vendors expect growing demand for flat panels as replacements for CRTs (cathode ray tubes). Over the past few years, leading makers of TFT LCDs have pushed into the burgeoning market for flat panels as CRT replacements. But since TFT LCDs still demand a price premium over CRTs, that market remains small and focused in Japan, Yoshida said.

Indeed, of the 1.4 million desktop flat panels that shipped last year, Yoshida said roughly 75 per cent were sold in Japan. Yoshida said he expects that in this calendar year vendors will ship three million TFT LCDs for desktop use, with roughly half to the Japan market.

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MITSUBISHI 15" Monitor
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Macase ATX Midi Tower
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MITSUBISHI 1.44M FDD
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MITSUBISHI 15" Monitor
MITSUBISHI K/B, Mouse, Win 98

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Diamond V770 16M AGP VGA
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Help Screen

Windows Manager

FINALLY, NET SEARCHES GET EASIER

By Brian Livingston

Windows users are forever scouring Internet search engines to find fixes for various problems. The good news is there's a lot of information out there. But search engines often return far too many results — and different search engines refine their searches in different ways.

Now someone is doing more than just complaining about this. Danny Sullivan, the editor of Search Engine Watch, an Internet analysis service, has announced the Search Engine Standards Project. Sullivan's goal is to bring together major search engine executives so that users need to learn only one set of search techniques, which will work across all engines. For details, see **searchenginewatch.com/standards**.

By major search engines, Sullivan means AltaVista, AOL NetFind, Excite, HotBot, Infoseek/Go, Google, GoTo, LookSmart, Lycos, MSN Search, Netscape Search, Northern Light, Snap, WebCrawler and Yahoo. (If you're not familiar with any of these engines, try typing the name into the address line of the current version of any browser, which will fill in the suffix .com and other Internet address junk.)

All these engines exist because no single engine can fill all users' needs. Personally, I use MetaCrawler for general searches across engines, AltaVista to search for Web citations of obscure terms, Yahoo to find sites that focus on a single subject and Northern Light to scan commercial text bases.

Choosing which engine to use for a particular task is daunting even for experienced data miners. So Sullivan's project to standardise search procedures may help users who must jump from engine to engine to find the information they need.

It has been said that the perfect job announcement would result in only one application, from the perfect applicant. That's the result I want from search engines: the perfect Web page that has exactly what I want (with links to other sources).

Most queries, however, return thousands of hits and narrowing your search becomes a painful but essential step. Fortunately, there are many little-known ways to make fine-tuning easy. And this is another way that Sullivan's standards project may be able to help.

One fast way to narrow your focus is to search only the titles of Web sites. This eliminates many sites that have mere passing references to your subject.

AltaVista, HotBot, Infoseek, GoTo, MSN, Snap and Northern Light allow you to do this with the prefix "title:" (as in title: windows bugs). But Yahoo uses the prefix "t:" and Lycos makes you go to an advanced search page.

If this still delivers too many hits, you can narrow your search to a single Web site that has many relevant pages. Doing this is even less standardised, however. AltaVista uses the suffix "host:" (as in host: infoworld.com windows bugs). InfoSeek uses "site:", and "domain:" is used by HotBot, GoTo, MSN and Snap. Other engines don't yet support this refinement (although some do on advanced search pages).

Even the most basic searches, such as "windows bugs", aren't safe either. Most engines treat this entry as windows OR bugs, but HotBot, Lycos, MSN and Northern Light treat such entries as though you typed windows AND bugs. AltaVista and Google default to "windows bugs" (as a phrase).

A complete description of all these rules is at **searchenginewatch.com/facts/powersearch.html**. I hope, however, that we soon won't need this.

■ Brian Livingston's latest book is *Windows 98 Secrets* (IDG Books).

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If you have a hardware or configuration problem, please specify the equipment and operating system you are using, and include any other information you think may be relevant.

We regret that owing to the large number of queries we receive each month, we cannot guarantee that your question will be answered.

Windows

SEE FILES IN THE WINDOWS FOLDER

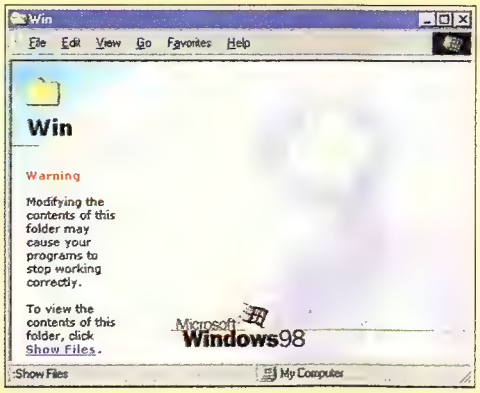
If you use Web View for your folders, you probably know that every time you open the Windows folder, you're treated to an obnoxious warning about how risky it is to modify its contents and then you have to click *Show Files* before you see anything beyond the handiwork of Microsoft's graphic artists.

The admonition reappears when you navigate to the System folder in the Windows folder. How can you banish this annoying augury for good? The easy way is to choose *View-as Web Page*, thereby turning off Web View.

But if you want to have your Web View without the warning, do this: first choose *View-Folder Options*, click the *View* tab and uncheck *Hide file extensions for known file types*. While you're there, look under the *Hidden files* section and make sure that the *Show all files* option is selected. Click *OK*. Go to the Windows folder and click *Show Files*. Locate and select the file named **Folder.htt**; this is an HTML template that determines the appearance of the folder in Web View. Press **<F2>** to rename it, type something like **folder.bak** and press **<Enter>**. Next, open the same file in the System folder and rename it **folder.bak**, too. Then navigate to the Web folder in the Windows folder. Select the **Folder.htt** file and choose *Edit-Copy*. Press **<Backspace>** to return to the Windows folder and then choose *Edit-Paste* to copy the file to the Windows folder. Next, open the System folder and choose *Edit-Paste* again to copy it to this folder as well.

The next time you open either of these folders, you won't trigger the tedious warning. If you don't get the Web View to which you're accustomed, you may need to choose *View-as Web* page again.

- Scott Dunn



Stop Windows' disappearing act by changing the default Web View template

BOLSTER SECURITY WITH PARTITION SAVVY

Last month, I covered two basic Windows NT security topics: creating a day-to-day user account and locking down your workstation when you leave it. But these measures don't make your system impervious to intruders. Determined snoops can easily bypass your log-in security if you use FAT (file allocation table), the ancient DOS file system that still lives on in Windows 9x. If you share your PC, you should also control who can access your files.

Windows NT 4.0 supports two file systems: FAT16 and its own NTFS (it can't read FAT32 partitions). As inefficient as FAT16 is, you may need it if you have to boot multiple operating systems and open the same files from each. To create a partition for each file system, use PowerQuest's $129 PartitionMagic.

Unlike FAT16, NTFS lets you control who gets access to which files. When you installed NT, you had the option of converting the target FAT partition to NTFS. But because the setup program doesn't explain the benefits of converting, you probably didn't. You may be using one file system or a mix of both, which may not suit your needs. To help you choose the optimal system for you, I've listed the pros and cons of each configuration option:

Convert all partitions to NTFS. NT's file system offers the highest

level of security and file-storage efficiency among the three options. But it won't let you boot Win 9x or another operating system in order to gain compatibility with software or hardware that NT doesn't support.

Leave all partitions as FAT16. This configuration allows you to boot multiple OSes for maximum compatibility with your older software and hardware. However, FAT16 stores files inefficiently on partitions that are larger than 512MB and the maximum partition size is 2GB.

Leave boot partition as FAT16, create separate NTFS partition. You get dual-booting; files stored in the NTFS partition benefit from higher security, storage efficiency and compression. But dual-booting makes it easier for miscreants to delete your NTFS partition.

- Scott Spanbauer

WHAT'S WITH THE MULTIPLE FONT FILES?

Q - I recently had to reduce the number of fonts on my system. I noticed that while some fonts come in only one file, others have separate normal, bold, italic, and bold italic files. Since every application I've used can make a font look bold, italic and bold italic, why do I need these other files taking up space?

- Don Ferron

A - Whether you want to keep those extra files is a matter of who you want designing your fonts: a human being capable of making aesthetic judgments or an application's algorithm.

Font designers often create bold, italic and bold italic versions of their fonts, finding visually pleasing ways to darken and slant the letters. Windows, as well as your applications, use these if they're available. If they aren't available, the apps extrapolate bold and/or italic effects by altering the normal font. The results are never as nice as the special fonts created by a professional designer.

In other words, if you care about the look of your printed text, you'll keep the bold and italic fonts.

- Lincoln Spector

Regular Bold *Italic* ***Bold Italic***

Regular **Bold** *Italic* ***Bold Italic***

Windows can give you bold and italics for any font (upper line), but you'll be happier with the results from properly designed bold and italic fonts (lower line)

PASSWORD-PROTECT FOLDERS

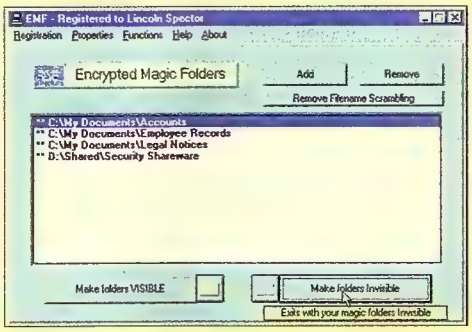
Q - Is there any way I can password-protect whole folders so that other users can't see their contents?

- Jared Miller

A - You can use shareware to encrypt folders. One product I like is Encrypted Magic Folders by PC-Magic, available on the CD. It keeps your choice of folders scrambled until you press a hot key, type your password and click a button. Then everything is readable until you either scramble the folders again or reboot your system. The only major drawback is the $US59 registration fee — high by shareware standards.

If that's too rich for your blood, try C-Flash Software's FlashLock, which costs only $US15 and can also be found on this month's CD. It's not as convenient as Encrypted Magic Folders (you have to re-encrypt after every decryption), but the hassle is minor. FlashLock requires Pretty Good Privacy 2.6.2 for DOS (PGP 5 won't work). Just install PGP, then FlashLock. FlashLock's installation program will walk you through PGP's settings.

- Lincoln Spector



Prevent other users from poking around your files with Encrypted Magic Folders

FROM FAT TO NTFS

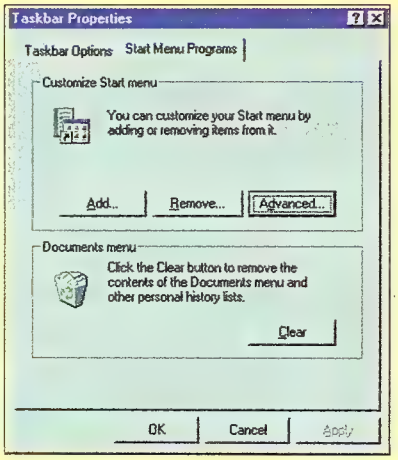
Windows NT's Disk Administrator utility — find it at *Start-Programs-Administrative Tools (Common)-Disk Administrator* — enables you to convert a FAT partition to NTFS (or vice versa), but doing so erases the partition's contents. To convert from FAT to NTFS without destroying files, select *Start-Run* and type **command**. Then, at the prompt, type **convert d: /fs:ntfs**, where d: is the drive letter of the partition you want to convert. If you're trying to convert your C: drive, the conversion will take place the next time you boot.

- Scott Spanbauer

Applications

AUTOMATE YOUR WORD DOCUMENT LAUNCH

For many of us, the routine is the same: when we start Windows, we automatically launch Word as well. Even more convenient is having Word automatically open the last document we worked on. Sure, opening it



Automating Word startup begins with the *Start Menu Programs* tab

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yourself takes only a few mouse clicks, but automating the process can help you customise your desktop to suit the way you work.

A little manipulation of the Start menu in Windows 95 and 98 is all that's required to get Word to start automatically. The method below is the easiest and ensures that you'll also be able to launch Word from the *Start* menu at any time.

1. From the desktop, right-click a blank area on the taskbar and then select *Properties* from the pop-up menu.

2. In the *Taskbar Properties* dialogue box, click the *Start Menu Programs* tab, then click *Advanced.*

3. In the left pane of the *Exploring-Start Menu* window, expand the *Programs* listing by clicking the plus sign next to the word *Programs.*

4. Click *Programs* in the left pane and then scroll down in the right pane until you find the *Microsoft Word* entry. If it isn't there, you will have to locate the icon manually. It will be in the folder that you normally open when you use the *Start* menu to run Word.

5. Scroll, if necessary, to make sure the StartUp folder is visible in the left pane of the *Exploring* window, then right-drag the Microsoft Word entry to the StartUp folder in the left pane.

6. Select *Copy Here* in the pop-up menu. This puts Word in the StartUp folder while retaining it in its previous location so you will be able to run it after exiting StartUp. (Hint: if you're using Windows 98 or the Active Desktop in Internet Explorer 4.0, you may also want to right-drag the Word icon to the *Quick Launch* toolbar, where it's always accessible via a single click.)

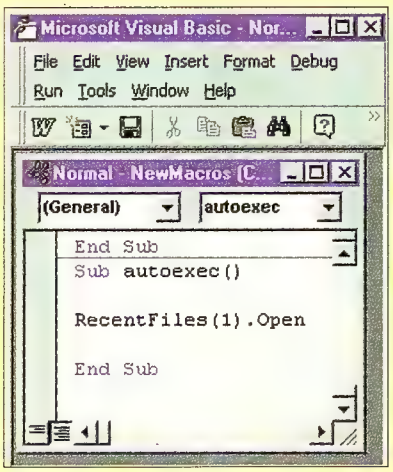
Want Word to open the last document you worked on as soon as it launches? Here's a simple macro that does just that.

Word 97

1. With Word running, select *Tools-Macro-Macros.*

2. Type **Autoexec** in the *Macro name* field of the *Macros* dialogue box and click *Create.*

3. Carefully type the single line of macro text below, between the **Sub autoexec()** and **End Sub** lines, in the macro editor. Include punctuation as shown.



Type the middle line to complete this macro for automatic file opening in Word 97

RecentFiles(1).Open

4. Select *File-Save Normal,* then *File-Close* and *Return to Microsoft Word.*

(Hint: if you would rather have Word display the *File-Open* dialogue box instead of launching the last document you worked on, type **wdDialogFileOpen** into the macro instead of the line above. To have Word display the *File-New* dialogue box, type **wdDialogFileNew**.)

Word 7

1. With Word running, select *Tools-Macro.*

2. Type **Autoexec** in the *Macro name* field of the *Macros* dialogue box and click *Create.*

3. Type the macro text shown below, between the **Sub MAIN** and **End Sub** lines.

FileList 1

4. Select *File-Close* and click *Yes* when prompted to save the changes in the macro.

- George Campbell

SET UP AUTOMATIC CAPTIONING

All versions of Word from 6.0 on can automatically insert a numbered caption line whenever you insert a graphical element, table, equation, or almost any other object in your document. But this feature is turned off by default. Here's how to turn the feature on and make it work the way you want:

1. Select *Insert-Caption,* then click *AutoCaption* in the *Caption* dialogue box.

2. In the *AutoCaption* dialogue box, click and mark an item in the list for which you want automatic captions. You'll see Word's default label for that item in the *Use Label* field and the default position for the item in the *Position* field.

3. To change the default label, click *New Label,* then type the desired text in the *New Label* dialogue box and click *OK.*

4. To change the default position for captions for this type of object, move the pointer down the list and choose the position you prefer.

5. To change the automatic numbering scheme, click *Numbering* and select options in the *Caption Numbering* dialogue box.

6. Repeat steps 2 through 5 for all object types you want captioned.

Note: once Word inserts an automatic caption for an inserted object, you can add to the label by typing your own text in the document window.

- George Campbell

TOOLBAR BUTTONS FOR DOCUMENT SWITCHING

If you commonly leave multiple documents open in Word, you've noticed that using the *Window* menu to switch between documents is a two-step nuisance and that remem-bering the keyboard command (**<Ctrl>-<F6>**) is difficult. Here's how to simplify toggling between documents in Word 97 and in Word 6 and 7 with a couple of toolbar buttons:

Word 97

1. Select *Tools-Customize* and click the *Commands* tab.

2. Choose *All Commands* in the *Categories* pane, then scroll down until you find the *NextWindow*

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command in the *Commands* pane of the *Customize* dialogue box.

3. Click the *NextWindow* line, drag it to the desired toolbar (or to the menu bar) and drop it.

4. Choosing *PrevWindow* from the *Commands* pane, repeat steps 2 and 3.

If the command appears as text only on the toolbar (or the menu bar), you can change it to an icon only or to an icon with text by right-clicking the button when the *Customize* dialogue box is still open. Select *Default Setting* if you want the standard icon, without any text. Right-click the button and select *Change Button Image* to pick from one of the offered icons. (Pick the left-pointing arrow for *Previous* and the right-pointing arrow for *Next*, as commonly found in Web navigation tools.)

Word 6 and 7

1. Select *Tools-Customize*, then click the *Toolbars* tab.

2. Choose *All Commands* in the *Categories* pane, then scroll down until you find the *NextWindow* command in the *Commands* pane of the *Customize* dialogue box.

3. Click the *NextWindow* line, drag it to the desired toolbar and drop it. When the *Custom Button* dialogue box appears, select a button from the palette or select *Text* button, then click *OK*.

4. Choosing *PrevWindow* from the *Commands* pane, repeat steps 2 and 3.

- George Campbell

DUMP WORD'S DEFAULT TABLE BORDERS INSTANTLY

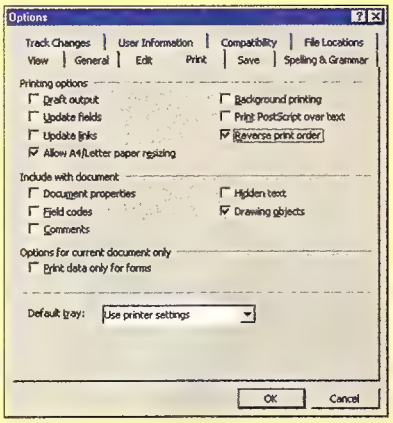
Word 97 and 2000 add a thin, printing border around every table you insert. That's fine if you want a border but annoying if you don't. Worse, there's no way to change this default. There is, however, an undocumented way to eliminate the borders that doesn't require a trip to Word's *Table-Autoformat*: immediately after inserting a table with the *Insert-Table* command, press **<Ctrl>-<Alt>-U** and the border disappears.

- George Campbell

MAKE REVERSE-ORDER PRINTING YOUR DEFAULT IN WORD

If your printer ejects pages face-up, you're probably used to shuffling your output pages to get them in the right sequence. Forcing Word to print your documents in reverse order is a snap, but Word hides this ability in its menus. In all versions of Word, select *Tools-Options*, then click the *Print* tab. In the *Printing options* section of the dialogue box, select *Reverse print order* to enable that option, then click *OK*.

- George Campbell



Word can easily print your documents in reverse order

THERMOMETER-STYLE GRAPHS MADE EASY

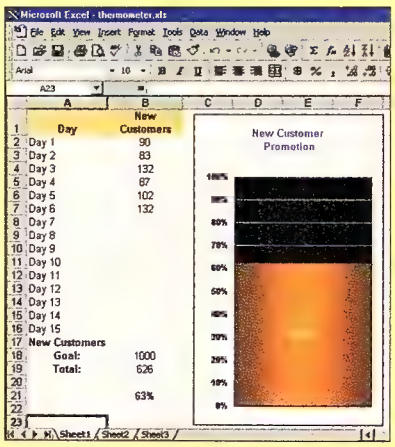
Most people are familiar with "ther-mometer"-style graphs, which show the percentage of a project completed. It's easy to make such a display in Excel. The key is to create a chart that uses a single cell (containing a percentage value) as a data series.

The illustration shows a worksheet set up to track daily progress toward a goal: 1000 new customers in a 15-day period. Cell B18 contains the goal value. Cell B19 contains a simple sum formula, **=SUM(B2:B16)** and cell B21 contains **=B19/B18**, a formula for calculating the percentage of the goal attained. As new data is entered in column B, the formulas display the current results.

To create the chart, enter the formulas listed above, along with the figure's sample data; then select cell B21 and click the *Chart Wizard* button. Notice the blank row preceding cell B21. If you fail to include this blank row, Excel will use the entire data block — not just the single cell — to construct the chart. Since B21 is isolated from the other data, the Chart Wizard uses only the single cell. In step 1 of the Chart Wizard dialogue, specify a *Column chart* and a *Clustered Column* subtype (the first choice). Click *Next* twice and then in step 2 make additional adjustments: add a Chart Title (*Title* tab), dump the Category (x) axis (*Axes* tab), delete the legend (*Legend* tab) and specify *Show value* (*Data Labels* tab). Click *Finish* to view the chart.

The chart needs further customisation. To display the *Format Data Series* dialogue, double-click the column. Click the *Options* tab and set the *Gap width* to 0 (this setting instructs the column to occupy the entire width of the plot area). To change the pattern used in the column, click the *Patterns* tab and make your selection. The example shown here uses a gradient fill effect. Next, double-click the vertical axis to bring up the *Format Axis* dialogue. In the *Scale* tab of the *Format Axis* dialogue, set *Minimum* to 0 and *Maximum* to 1.

- John Walkenbach



Use Excel to create "thermometer" style graphics, which show the percentage of a project completed

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HOW MANY DAYS ARE LEFT?

If you've ever had to figure out which of the year's 365 days a particular date falls on, or how many days remain in the year, you've probably found that Excel lacks functions to perform the calculation. But you can create formulas to do the job. The formula below returns the day of the year for a date in cell A1:

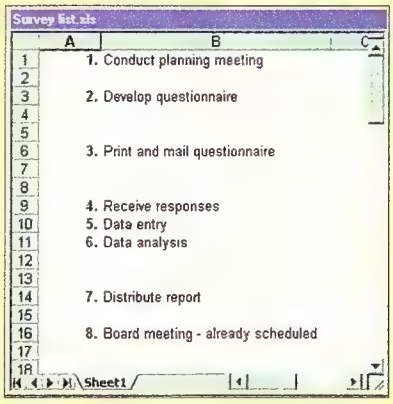
=A1-DATE(YEAR(A1),1,0)

Excel automatically formats the cell as a date, so change the number format to another option (like *General*).

To calculate the number of days remaining in the year (assuming that the date is in cell A1), use the following formula:

=DATE(YEAR(A1),12,31)-A1

- John Walkenbach



Formulas in column A display consecutive numbers in non-consecutive cells

AUTOMATIC LIST NUMBERING

In Excel, to consecutively number items in non-consecutive cells, simply plug formulas that refer to the cells in column B into column A's cells. The **formula =IF(B1<>"",COUNTA (B1:B1)&".","")** displays the next consecutive item number if a cell has something in it; if a cell is empty, it displays nothing.

After you have entered the formula, you can copy it down the column as many times as you need to handle all of the items you'll be entering.

For 1-2-3, use the following formula to produce the same result:

@IF(B1="","",@STRING(@COUNT (B1..B1),0)&".")

- John Walkenbach

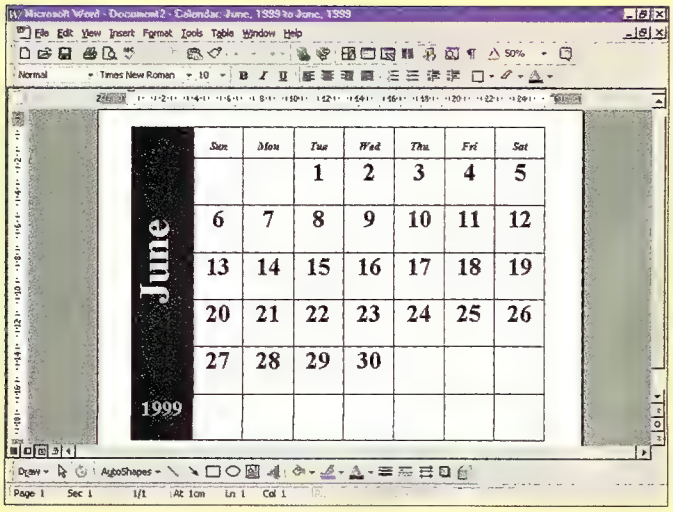
CREATE CUSTOMISED CALENDARS

Need a calendar for your wall? You don't have to buy one. Word can create one for you with its Calendar Wizard. Word 6 and 7 install this wizard with the default installation, so it's ready for use. Word 97 doesn't automatically install this file, but it's on your Office 97 CD, in the \valupack\template\word folder. Copy the file **calendar.wiz** to the \msoffice\templates folder on your system (it might be under \Program Files). If you are connected to the Internet, you can select *Help-Microsoft on the Web-Free Stuff* menu and download the Calendar Wizard at no charge, after registering on the site. Save the download into your msoffice\templates folder.

Once you have the file on your hard disk, you can create monthly calendars in several styles. Select *File-New*, then select the *Calendar Wizard*, which should appear under the *General* or *Other Documents* tab.

Follow the instructions in the wizard to choose from the available styles and to select the months that you want the calendar to cover. You can even insert a placeholder for a graphic. And if you're not happy with the results, you can edit them easily — the calendar itself is a standard Word table.

- George Campbell



Use Word's calendar wizard to create customised calendars

REALLY HIDE AN EXCEL WORKSHEET

You can use Excel's *Format-Sheet-Hide* to hide an entire worksheet. But unless you password-protect the workbook structure, anyone can select *Format-Sheet-Unhide* to see the hidden sheet. Brian Veara suggests a better method for Excel 97 or later: press **<Alt>-<F11>**; in the *Project* window, double-click *Microsoft Excel Objects* and select the sheet to hide. Press **<F4>** and set the *Visible* property to *xlSheetVeryHidden*. To unhide the sheet, set the *Visible* property to *xlSheetVisible*.

- John Walkenbach

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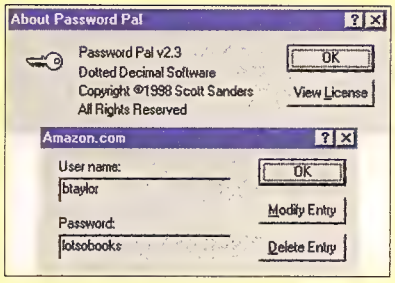


Password Pal keeps your Web passwords handy and secret

Privacy gurus tell us to keep different user names and passwords for different sites and services and to vary all of them periodically. But remembering all those passwords and IDs is nearly impossible. To avoid the dreaded "unauthorised access" page, I keep my Web passwords in my Rolodex, but that's just me. Here are several tricks for managing all your online personae.

Store your alter egos with your Bookmarks. In Netscape's browsers (versions 3 and higher), you can store any information in the Bookmark's *Description* field. First add the site to your Bookmarks, then click *Bookmarks-Edit Bookmarks*, right-click the bookmark you want to edit and select *Bookmark Properties*. In the description box, type your user name and password or a hint to remind you of either.

Better yet, here are two virtually unknown tricks for saving your passwords with your saved site information. These gems were submitted by Declan Fox.

1. Navigator Bookmarks: click *Bookmarks-Edit Bookmarks*, right-click the bookmark that you want to edit and then select *Bookmark Properties*. Click inside the *Location* field and press the **<End>** key to get to the end of the address. If the address appears as a "straight" address (that is, it ends with .com, .net, .html, or another common suffix), type a question mark followed by any information that will remind you of your "identity". The question mark tells the browser to ignore anything from that point on, but the information will display on the address bar whenever you go to that site. So if your user name is Bob and your password is cookoo, that line will be **www.secretsite.com?bob cookoo**. If the URL appears to be a query (that is, it contains reference to cgi-bin or some weird character strings), type an ampersand (&) followed by the reminder.

2. IE Favorites: Select *Favorites-Organize Favorites*, right-click the Shortcut you wish to edit, select *Properties*, click inside the *URL* box and press **<End>** to get to the end of the address. See the information in the preceding paragraph about adding a question mark or an ampersand.

Note that while some addresses seem to be pure URLs, they may in reality be pointers to queries (for example, **mail.yahoo.com**), so you'll need to experiment before you know whether you need a question mark or an ampersand.

3. Have IE 5 type them for you. The newest version of Internet Explorer offers an AutoComplete feature for Web forms that "remembers" user names and passwords after you type them into a Web page. These are stored in encrypted form on your hard disk. Just double-click a *name* field and you'll get a drop-down list of all the names you've used. When you select one, the password is entered for you.

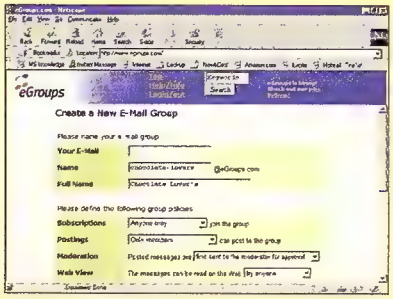
4. Use a password utility. My favourite tool for keeping passwords at hand is the freeware Password Pal by Dotted Decimal Software. Click the key that Password Pal places on your toolbar and your passwords and log-on names will pop up — password-protected, of course. You need to enter only one password to access all your other passwords, or you can configure the program to demand it each time you want a specific pass-word. Webpass, a $12 shareware tool from C3 Software, will enter your password into a Web site for you at the click of a button, but it doesn't store it in password-protected form. Both programs are available on our cover CD.

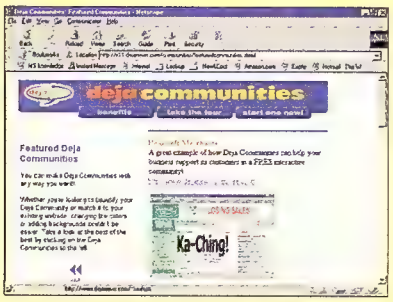
- Judy Heim

YOUR VERY OWN PUBLIC DISCUSSION GROUP

Have you ever wanted to run your own newsgroup-style discussion group? Have you thought about hosting a mailing list but are intimidated by the management responsibilities? Or do you just want an intimate place on the Web where you and a few friends can meet? A growing number of Web sites let you host your own discussion groups — for free. And they let you set them up in many different ways. Your discussion group can be public or private, moderated or unmoderated. You can configure it so messages are displayed bulletin board-style on the Web, or you can set it up so messages are e-mailed to participants in vintage mailing-list style, as well as displayed through a Web page. Caveat emptor: the services listed below were somewhat buggy as we went to press, but they've attained popularity with users nonetheless.

EGroups: you can set up free public or private mailing list-style discussion groups on EGroups (**www.egroups.com**). Participants can read the messages on the Web as they would a bulletin board, as well as receive them in their e-mail boxes. The site lets you create an event calendar; folders containing text items such as FAQs; Web page links; and even surveys for your group. EGroups also archives messages.





Set up free public or private mailing list-style discussion groups with Deja News Communities and EGroups

Unfortunately, the service is slow to respond to commands and is sometimes also slow to post messages. You can set up your discussion group to be moderated, but it's awkward for the moderator to review and post messages.

OneList: you can set up free mailing lists on OneList (**www.onelist.com**), either public or by invitation only. Like traditional mailing lists, OneList e-mails subscribers' messages that are posted to the list. You can moderate your list by weeding out unwelcome spams. Subscribers can read archives of past messages and you can host lists in any language.

OneList provides HTML code that you can add to your own site as a link to your discussion list. I experienced some technical problems setting up lists. Sometimes when I tapped into my own list I got error messages reporting that the system hadn't confirmed my e-mail address; my subscribers received similar messages. I also had difficulty finding the list I created; OneList's searcher erroneously kept reporting that it didn't exist.

Deja News Communities: want to run your own newsgroup? Try the free Deja News Communities area, **www.dejanews.com/communities**. Unlike full-fledged Usenet newsgroups, your newsgroups are visible only on Deja News. You can create a forum for any topic and make it public or private. However, you can't screen messages before they're posted.
- Judy Heim

UNLEASH A SEARCH HOUND

I have a dog who, if you put him on a scent, just keeps going and going, pawing, digging, running, sniffing. He'll never stop. That's the concept behind Dogpile (**www.dogpile.com**). Dogpile picks through not only major searchers like Yahoo, Excite and AltaVista but also gateway services such as Mining Co and Usenet databases like Deja News, plus FTP searchers and even news wires, including business ones. It will even search weather sites. You can tell Dogpile to search specific resources for a set period of time — say, 60 seconds — then move on to another one. I wish I could teach my dog that trick.
- Judy Heim

E-MAIL SIGNATURE HICCUPS

Do messages you send to subscribe to mailing lists come bouncing back? The receiving computer may be rejecting messages that include anything beyond mailing list commands like subscribe and unsubscribe. The culprit may be your e-mail signature, so delete it before you send the message. If your mail software adds signatures automatically — in other words, if you don't see them when you write your notes — try sending the message via a different client, or disable your signature temporarily.
- Judy Heim

Hardware

THE TEN COMMANDMENTS OF INSTALLING UPGRADE CARDS

For Moses, the Ten Commandments were carved in stone. Thou shalt do this, thou shalt not do that. Life was simpler then. Nowadays we have PCs. They're supposed to make our lives easier by doing this and not that. Take Plug and Play. The technology has made adding new hardware a snap — especially with Windows 98 — but it's still far from foolproof. Installing a network card or video accelerator, for instance, can cause a ripple effect of conflicts even when the device is installed correctly. And a botched installation can cost you several hours, if not days, of downtime.

You can avoid all the pitfalls associated with card upgrades by following what I call the ten commandments of installing upgrade cards.

1. Don't burn your bridges. Installing hardware usually entails installing driver software as well. And if you experience problems during the installation, important files may be changed, corrupted, or even deleted. So always have a recent backup of your data handy. Ideally, you have a complete replica of your hard disk — PowerQuest's Drive Image 2.0 is great for this — stored in a safe place. If that's not practical, at least back up your key system files: **system.dat**, **user.dat**, **system.ini** and **win.ini** (all in the Windows folder) and **autoexec.bat** and **config.sys** (in the root folder).

2. Do your homework. Installation often requires you to make obscure and non-intuitive choices, so read the documentation. Gather all setting information like COM ports or, for non-Plug-and-Play hardware, IRQs and DMA addresses. Next, go to the vendor's Web site and look for confirmation of the installation instructions. While you're there, see if a more recent version of the card's driver exists and if it does, download it. But be wary: many companies will post beta versions of a card's drivers. Unless you have good reason to believe a beta driver is stable, avoid it. They are works in progress and may not qualify for tech support.

Benefit from the experience of others. If there's a FAQ or knowledge base on the vendor's site, check it for known problems and other issues with your card.

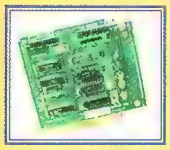
3. Consult the experts. If you don't find satisfactory answers online or in the printed documentation, call the card vendor's technical support line before you start the installation. Support technicians are your best source of current information and troubleshooting tips on specific hardware.

The single largest library of collected troubleshooting information is located at Microsoft's online KnowledgeBase (**support.microsoft.com**) and at its associated, more technical database, TechNet (**www.microsoft.com/technet**).

4. Remove old drivers first. If you're replacing an existing card, remove the old card's drivers before

MicroGram Computers

Watch-Dog Timer



By adding a timing reset instruction to the outer loop of your program, this card will apply a hardware reset to the computer in the event of a lock up. Utility software included for DOS, Windows 3.1, Win 95, Windows NT, OS/2 & UNIX.

Cat.17044	WatchDog Timer Card	$149
Cat.17050	WatchDog Timer II Card	$349

CD ROM IDE ISA Controller Card

Don't slow down your hard drive access speed! Put your CD ROM on a separate controller. This card will allow you to simply add a CD ROM drive. Address 1F0/170 and IRQ's 14,15 with primary or secondary select.

Cat. 6385	CD ROM IDE ISA Controller Card	$33

Also available, an 8 EIDE Device Card

Cat. 2320	ISA Quad Channel EIDE Card	$199
Cat. 2692	HDD Cont PCI 4 Ultra DMA devices	

Hard Disk Drive Duplicators

These hard disk drive duplicators offer a low cost, high performance solution whether you want high-volume 1 master to 8 drive copying or quick, low volume, 1 master to 2 drive copying.

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Cat. 6426	Hard Drive Duplicator Two Drives	$2899
Cat. 6427	Hard Drive Duplicator Eight Drives	$6499

Compact Multimedia FM Radio Receiver

A high quality FM stereo radio that simply plugs into a serial port while a stereo RCA cable connects to a sound card. An antenna also plugs into the unit. Fully clickable controls enable you to scan the frequencies from 87.5 to 108MHz, tune a particular station and name it as one of ten preset stations.

Cat. 3304	Wizard Radio FM Radio Receiver	$79

Multi I/O ISA Card

A versatile interface card that supports 2 FDD, 2 HDD As well as 2 16550 compatible serial ports, 1 ECP/EPP printer port and 1 games port.

Cat. No. 2055	Multi I/O Card	$55

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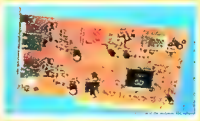
USB Converters

Looking for ways to protect your peripheral investment, while moving to USB-based systems? We carry a range of converters and adapters, including USB to parallel, USB to serial, USB to RJ45 and USB to ATAPI. You can even network two computers via their USB ports and save on the cost of network cards.

Cat. 2685	USB to Parallel	$89
Cat. 2801	USB to Serial	$119
Car. 15081	USB to ATAPI	$159
Cat. 2802	USB to Ethernet	$154
Cat. 9107	USB to USB (Interlink)	$139

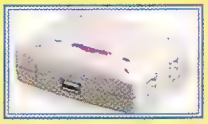
Two Port USB Card PCI



Provides 2 USB ports with a bandwidth up to 12Mb/s. Supports real time dynamic insertion and removal of up to 127 devices.

Cat. 2622	Two Port USB Card PCI	$109

USB Manual Switch Box



A bus powered, electronic, push button manual switch box which allows 4 PC's to share a single USB device on a one-at-a-time basis.

Cat. 12049	USB Manual Switch Box	$69

USB Hubs

Choose from 2, 3, 4 or 7 port models. The three port model provides one high-speed RS232 serial port, one printer port and 3 downstream USB ports. All support both OHCI (Open Host Controller Interface) and UHCI (Universal Host Controller Interface).

Cat. 2804	2 Port USB Hub	$69
Cat. 2682	3 Port USB Hub + 1S/1P	$239
Cat. 2628	4 Port USB Hub	$89
Cat. 2803	7 Port USB Hub	$169

USB Cables & Motherboard Connectors

The USB contains two connector types - A and B. All USB ports on your PC will be of Type A. Type A is also used on those devices in which the external cable is permanently attached, such as keyboards and mice. Type B is used in applications which require detachable external cable such as printers, scanners and modems. A Type A/B cable is used to connect these devices to a hub and to connect the hub directly to your PC.

If your motherboard already has dual USB port pin connection headers then you can add 2 USB ports to the backplane. The two 5 pin (or 4 pin) connectors are plugged directly onto the motherboard connector to provide two Series A USB ports.

Cat. 9093	USB Cable 2m Type A Male/Male	$11
Cat. 9094	USB Cable 2m Type AB Male/Male	$11
Cat.9095	USB Ext Cable 2m Type A Male/Female	$13
Cat. 2660	USB Connection for M/B 2 x 4	$25
Cat.2805	USB Connection for M/B 2 x 5	$25

PCMCIA Reader/Writer - USB

Supports PC Card Type I and Type II ATA Flash card and is hot swappable so it can be dynamically plugged in or removed from USB port. Active LED indication of power and read / write operation.

Cat. 6489	PCMCIA Reader/Writer -USB	$309

Year 2000 BIOS Card

This card has passed the NSTL "Year 2000 Compatibility Test" program and carries the NSTL "Compatibility Test" seal.

Even Pentium motherboards are not immune to the Year 2000 bug! This Year 2000 BIOS Card solves the problem of progression from 1999 to 2000 as well as 21st century leap years. It is also double-buffered to take care of the Crouch-Echlin effect. **"It worked well in fact, and the machine passed all the tests we threw at it."** March 99 Electronics Australia magazine.

Cat. 3359	Year 2000 BIOS Card	$129

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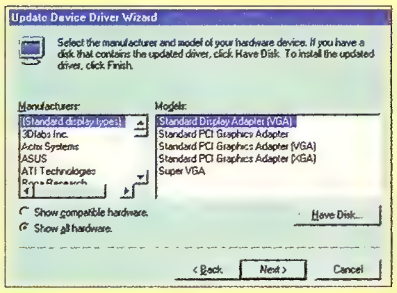
installing the new one. Go to Device Manager (right-click *My Computer-Properties*, select the old device and hit the *Remove* button; or starting from the Control Panel, run *Add/Remove*). You can't remove a video card driver, so — to work around this problem — double-click the display driver entry in Device Manager, hit the *Update-Driver* button on the *Driver* tab and replace your current driver selection with Windows' Standard VGA driver.



Install Windows' VGA driver before you remove your old graphics card and install a new one

5. Never interrupt a driver installation. Always finish the installation of a driver and then, if you want, uninstall it. Stopping in mid-installation may change or damage key system files. And you may not be able to undo the damage by removing the partially installed components with *Add/Remove* or by reinstalling the driver.

6. Install one card at a time. If you're adding more than one card, install one first and then use your system for a while. Make sure it has no performance conflicts before you add the others. This will make any problems that arise far easier to isolate and resolve.

7. Get grounded. Static electricity on your body can destroy chips. Always ground yourself by touching a large grounded conductive object (aluminium or steel). If no such object is available, touch your PCs case while it's still plugged in to a grounded outlet.

8. Be gentle but firm. Insert cards with care. Sometimes substantial pressure is needed to insert a card into an expansion slot. If the motherboard flexes at all, back off and try realigning the card.

9. Use the screws. Always fasten the card's bracket to the PCs frame. The card may seem to be firmly in place, but it can easily come loose, causing all kinds of trouble.

10. Save your old card and software. Murphy's Law of Installations: the day after you throw something away, you'll need it.
- Kirk Steers

INCREASE PRINTER CAPABILITY

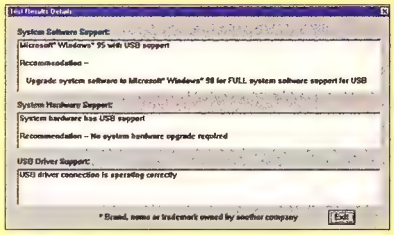
Having trouble printing big or complex graphics files? On some printers, you can adjust a few settings that will help you print large files. Select *Start-Settings-Printers*, right-click your printer's icon and select *Properties*. On the *Details* tab, in the *Transmission retry* box, lengthen the time for which Windows 98 will send data to the printer. Then click the *Spool Settings* button and change the *Spool data format* from *EMF* to *RAW*. When you're done printing, change the setting back to *EMF*.
- Kirk Steers

GET ON THE BUS

Q - Does USB really let you connect 127 devices to a single port and provide power for each device? I don't see how I can daisy chain my USB devices as easily as magazine articles claim.
- Jean-Andre Corpuz

A - Yes, theoretically you can attach 127 devices to your system; and yes, a Universal Serial Bus connection does provide limited power to each device. But there are some important practical issues you need to consider to successfully hook up USB peripherals to your system.

To establish a USB connection, you need both hardware and a BIOS that support USB as well as the appropriate version of Windows. Just because your motherboard has a USB port doesn't mean you have the proper BIOS and hardware. To see if your PC is USB ready, you can run USBReady, a free utility available on this month's CD or from **www.usb.org/faq.html**. It examines your system's hardware, installed drivers and Windows version and identifies what, if anything, is needed for USB to work.



USBReady tells you if your PC is able to use USB devices

If you're having trouble with your USB port and your motherboard is more than 18 months old, the port may be improperly designed. Some motherboard manufacturers jumped the gun and included USB ports before the final USB specifications were completed. To see whether your motherboard suffers from this problem, call your system vendor.

And if your motherboard does have an older, non-functional port, or it doesn't have a USB port installed, you can add ports via a PCI expansion card such as the $79 PCI-USB Converter card from Dynalink (**www.dynalink.com.au**).

Both Windows 98 and the last versions of Win 95 (OSR2.1 and 2.5) support USB. But if you use Win 95, always check with the peripheral manufacturer to ensure Win 95 USB drivers are available for it.

If your system has everything it needs for USB and you still can't get a USB peripheral to work, make sure USB is activated in your CMOS setup program. To enter CMOS setup, hit the appropriate key (as indicated by a screen prompt) when your computer

EST016A/PCW

Why pay for all this...

...when all you want is this?

first starts up. Where in the setup program you find the USB setting — and what it is called — varies depending on the BIOS version and brand.

To hook up more than one device to a single USB port, you need a hub. The two rectangular external connectors built into new motherboards — which make up the root hub — allows you to attach one peripheral to each port. And if those devices have their own built-in hubs with external connectors, you can piggyback additional peripherals on the root hub.

For example, the Philips Brilliance 151AX Flat Panel monitor comes with a four-port hub in its base that offers a convenient way to plug in a mouse, a keyboard and other desktop peripherals. And if one of those newly attached peripherals has its own built-in hub, you can continue adding more devices to the chain. But not all peripherals possess an on-board hub. In such a case, you can buy a dedicated four-port hub like the $199 USB hub from Dynalink.

USB ports don't deliver just data to peripherals; they also deliver power. USB hubs come in two types: bus-powered hubs, which draw power from the incoming connector and can output up to 100mA per port; and self-powered hubs, which draw power from their own power cord and provide up to 500mA per port.

If your attached USB peripherals draw more current than the bus can support, the entire bus may shut down. You can check whether this potential conflict is a problem for you by looking for a warning icon next to the *Universal Serial Bus Controller* entry in Windows' Device Manager.
- Kirk Steers

Linux

SETTING UP AN INTERNET CONNECTION

One of the first things you will want to do after setting up Linux is to set up an Internet connection. There are several ways to go about setting up an Internet connection, but the easiest method with Red Hat 5.2 is to use the tools provided by Red Hat.

Using the control panel

Red Hat ships with a useful tool for configuring various settings on your computer called the control panel. You can launch this from the command line by typing:

control-panel &

You will have to be root to launch the control-panel program, so either log in as root, or type:

su -<root password>

To become root from a user account. After you have finished the configuration, you can type **exit** to return to your user account.

The first step is to configure your modem by clicking on the modem icon. This will bring up a new display that lists the DOS COM ports on your computer. Simply select the appropriate COM port for your modem and select *OK*.

The network configurator

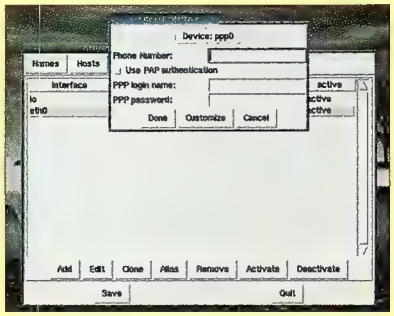
Next, you will want to start the network configurator program by clicking on the network icon, or by typing **netcfg &** from the command line.

The first step is to type in the hostname of your computer and its domain. The hostname is just a name to differentiate your computer from other computers on the same network. For example, if your Internet account was flinstones.com.au domain, you might set your hostname as "Bam-Bam".

Next, in the bottom pane of the display (labelled Nameservers), you will want to add your DNS server's primary and secondary IP addresses. Your ISP should provide you with this information.

The next step is to create the PPP interface. You can think of an interface as a network connection. For example, there are PPP interfaces, Ethernet interfaces, SLIP interfaces and so forth. Click on the *Interfaces* tab and then select *Add* to add a new interface. Choose the PPP option and select *OK*. Enter in your ISP's phone number and your username and password in the spaces provided.

You will also need to know if your



Creating the PPP interface

ISP uses PAP (Password Authentication Protocol) or CHAP (Challenge Handshake Authentication Protocol) to negotiate PPP connections. If so, you will want to click on the *Use PAP Authentication* button. Now your connection should be ready to go.

Setting up the chat script

If your ISP does not use PAP authentication, you will need to set up a chat script. A chat script is just what the name implies — it's a "chat" between your computer and your ISP. The chat script is responsible for logging in and setting up the communications between your computer and your ISP.

If you're dual booting between Windows and Linux, you can find out what your chat script should contain by selecting the properties of your dial-up connection and clicking the *bring up terminal window after dialing* option. You will need to write down what is displayed on the screen and what you type in as a response. This may include asking what type of service you would like to use, your username and your password.

To create the chat script, go back to the network configurator program, click on the *Interfaces* tab, select your newly created PPP interface and then press the *Edit* button. A dialogue box will present options to type, in *Send* and *Expect* pairs. For each entry, you should type in the last word sent by your ISP in the *Expect* box and your response in the *Send* box. It is critical that this is 100 per cent accurate, so make sure you've got the right strings. Finally, set the last line of your script to expect a tilde (~) and don't send anything.

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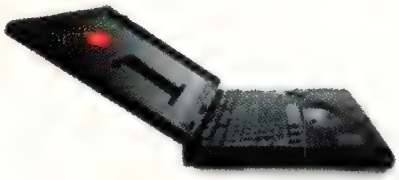

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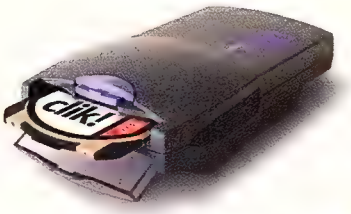

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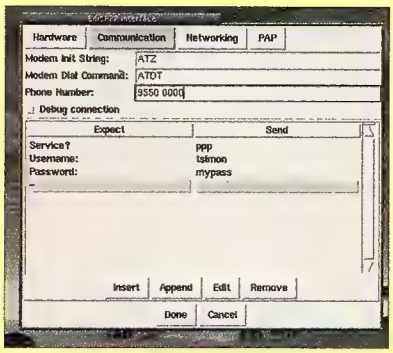


Send and Expect options tell your computer to communicate with your ISP

You might also want to have a look at the options in the Networking page. Many of the options can be left unchanged, but there are some — such as reconnecting if the line drops out — that you may wish to select.

If all went well, you should have successfully created the connection. You can activate the connection by selecting the PPP interface in the network configurator program and then pressing the *Activate* button.

If you run into problems, there is plenty of documentation that ships with Red Hat 5.2. Check in the /usr/doc/HOWTO directory for the PPP-HOWTO document, which contains more information about setting up a PPP connection. Another good source of information is the Network Administrator's Guide, which can be found at **mirror.aarnet.edu.au/linux/LDP/LDP/nag/nag.html**.

- Travis Simon

Newbie

BROWSING FOR A BROWSER

Q - Why does Netscape have two current versions of Communicator available, eg version 4.51 and version 4.08? There appear to be cosmetic differences between them and I can't find an explanation as to which version to select. Is one a beta version? Thanks in anticipation.

- Peter Bateman

A - Web browsers are a dime a dozen these days and it's easy to be overwhelmed and confused by the number of versions available for download. Here's a rundown of Netscape's latest browser offerings.

Netscape Communicator is a suite of Internet programs for communicating and sharing and accessing information. It includes programs for Web browsing (Navigator), e-mail (Messenger), news reading (Collabra), Web-based word processing (Composer), chat (AOL Instant Messenger) and group scheduling (Calendar), and it also ships with several multimedia plug-ins and various other utilities. The latest version at press time is 4.51, which is the full version of Communicator, not a beta version.

Netscape describes its Navigator browser as "the cornerstone of Netscape Communicator", and makes it available for download as a separate program, for those users who just want a Web browser without the other programs included in the Communicator suite. The stand-alone version of the Navigator browser is called Navigator 4.08 and it is a much smaller file to download than Communicator 4.51. Navigator 4.08 is also the latest full version of Netscape's browser and not a beta program.

The bottom line — download Navigator 4.08 if you only want a Web browser, otherwise download Communicator 4.51.

- Belinda Taylor

BATCH FILES REVISITED

Q - How do I create a batch file in MS-DOS and Windows 95? Thanks.

- Kien

A - A batch file is a plain vanilla text file that contains DOS commands. However, as far as DOS is concerned, a batch file is also an executable file, that is, a program. When a batch file is executed, the operating system usually reads and performs each DOS command in the file sequentially, until the end of the file is reached. Batch files can be short and simple or long and sophisticated, depending on what they are designed to do. They are particularly useful for creating menus and rapidly performing frequently used, long sequences of DOS commands.

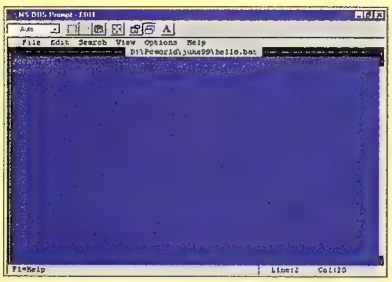
For example, you could create a batch file first to perform a number of DOS commands, then launch Windows and open a new file in your word processor. Or you could create a batch file to back up all of the word processing files in a directory to a Zip file on a floppy disk and then delete the original files on your hard disk. The possibilities are endless and are really only limited by your imagination and, of course, by the available DOS commands.

The best known batch file is the **autoexec.bat file**, which can be found on almost every PC. It contains all the instructions and settings that are needed every time you boot your PC and it runs automatically on start-up. Most other batch files are executed by typing the name of the file at the DOS prompt.

You can create and edit batch files with any text editor or word processor that can save a file in text-only format, such as the **Edit** program in DOS or Notepad in Windows. It's best to avoid word processors such as Word or WordPerfect, because their default file formats may corrupt your batch file by adding invisible formatting codes such as page breaks and paragraph markers.

Here's how to create a simple batch file called **hello.bat** in DOS:

1. At the DOS prompt, type **edit hello.bat**. Make sure that the file extension is **.bat**.



Batch files can be created in any text editor

2. Type in the following DOS commands that will run when **hello.bat** is executed:

@echo off

echo "Hello world!"

3. Save the file by pressing **<Alt>-<F>-<X>**, then **<Enter>**.

To create the same batch file in Windows 95, select *Start-Programs-Accessories-Notepad*. Then type in the DOS commands:

@echo off

echo "Hello world!"

Next, select *File-Save As*, type **hello.bat** in the *File Name* box, select *Text Documents* in the *Save as type* box and press the *OK* button. Finally, select *File-Exit* to close Notepad.

To run your batch file, enter **hello** at the DOS prompt, or double-click the **hello.bat** file in Windows 95. As you watch, DOS will sequentially run each command contained in your batch file.

- Belinda Taylor

Bugs and fixes

LAST RITES AND FIXES FOR THE 4.0 BROWSERS

Internet Explorer 5 is here and Communicator 5 is on the horizon. Microsoft and Netscape have been working intensively on these latest versions, which promise to be smaller and more stable than the first 4.0 versions. But if you're cautious by nature, you'll stick with your 4.0 browser until the canaries who use version 5 have been singing for a couple of months.

No browser (or other complex app) is likely to be bug-free. But after a couple of years of patches and revisions, Communicator and Internet Explorer are pretty close now. Netscape recently posted Communicator 4.51 to its Web site and Microsoft may already have posted Internet Explorer 4.0 Service Pack 2 by the time you read this. Both correct minor flaws — buttoning up loose ends, smoothing over irritating glitches and plugging obscure security holes.

Communicator 4.51 is the first update to version 4.5 of Netscape's browser suite. If you're still using Communicator 4.0x, note that Netscape says the current version (4.08) will be the last. As we went to press, the company wouldn't supply any details on the fixes contained in version 4.51, other than to say that it solves many of the problems listed on the Communicator 4.5 Release Notes Web page (**home.netscape.com/eng/mozilla/4.5/relnotes/windows-4.5.html**) as well as four specific security flaws discovered after version 4.5 shipped. The security holes — most of them discovered by Bulgarian sleuth George Guninski — exploit pinholes in Communicator's JavaScript scripting language.

Though Netscape assures us that no one has exploited these flaws yet, you should grab the update to reduce your chances of being hacked. To update your current copy of Communicator, choose *Help-Software Updates.*

Microsoft's Internet Explorer Service Pack 2 will collect the security fixes that appeared after SP1 came out last year (most of them already reported in this space). IE's Guninski counterpart is Spaniard Juan Carlos Cuartango, discoverer of the "Cuartango" and "Son of Cuartango" holes. As we went to press, Cuartango announced that he had found yet another IE 4 security flaw (dare we call it "Return of the Son of Cuartango?") — one that allows naughty hackers to view the contents of your clipboard. To download Service Pack 2, choose *Help-Product Updates.*

- Scott Spanbauer

GRIM FANDANGO 1.01

Still can't solve that LucasArts Grim Fandango game you got during the holidays? You may have the program's bugs to blame. Several of them induce lockups at critical points in the game, leave players unable to move or open certain doors, or cause important clues to whiz by too quickly to be seen. Yet another bug makes the game crash on speedy systems (Pentium II-400 and faster). For additional details (including game spoilers), point your browser to **www.lucasarts.com/support/grim.htm**, or download the 2.2MB patch from **ftp.lucasarts.com/patches/pc/gfupd101.exe.**

- Scott Spanbauer

OUTLOOK 98/97 ARCHIVE JIVE

When you archive your precious messages in an e-mail program, you expect them to be there later, when you need them. But if you use Microsoft's Outlook 98 or 97 and its Archive or AutoArchive feature, you may want to double-check that they're still around. The company recently acknowledged that both versions of its e-mail/PIM program can lose messages if the computer should crash, reboot, lose power, or otherwise expire while Outlook is moving them to the archive file. As we went to press, Microsoft was about to post a 51MB fix that prevents system failures during the archiving process. Until then, the company suggests you avoid Archive and AutoArchive. For details on the fix and a link to the patch, see **officeupdate.microsoft.com/downloaddetails/arch98en.htm.**

- Scott Spanbauer

KODAK POWER SUPPLY RECALL

Be careful with that AC adapter. If your Kodak DC25, DC40, DC50, or DC120 digital camera came with one of four Elpac AC adapters, you need to contact Kodak about obtaining a replacement. If not fully plugged into the digital camera, the faulty power supplies can make the camera's batteries overheat, leak acid and even explode. A Web page maintained by Kodak (**www.kodak.com/US/en/digital/accessories/ac**) points out that such leakages or explosions can cause lacerations or thermal and chemical burns. If you own one of the recalled adapter models — 2534, 2457, MI2008, or M42008 — you can continue to use it with your

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digital camera. Just be sure to remove the camera's batteries first. Or better still, register at the same Kodak Web site for a free replacement adapter.
- *Scott Spanbauer*

?

Mac

MAKING WAVs

If you like to swap sound bites with other computer users, you'll be aware that the formats in which sounds can be captured and saved are many and varied — especially when it comes to swapping sound files with Windows users. The most commonly used sound format on Windows is .wav, and thankfully QuickTime versions later than 2.5 know how to play .wav files perfectly. With QuickTime 3, you can even play .wav files using other applications (such as SimpleText) by enabling QuickTime Exchange in the QuickTime control panel.

If you want to create .wav files, you'll need QuickTime 3 Pro, which costs $US29.95 (download QuickTime 3 from **www.apple.com** and then register with your credit card details to get a code which unlocks the authoring features).

Once you've captured your sound bite, simply open it in QuickTime 3 Pro and save it using the Export . . . command. If $29.95 seems a bit steep, check out Norman Franke's freeware SoundApp, which lets you convert sounds between numerous different formats. Download it from **www.shareware.com**.
- *Matthew JC Powell*

HOW TO MAKE A EURO

When the European Union introduced its common currency this year, it introduced a nightmare for anyone who has to use the symbol for it in print. Luckily, Apple anticipated the change and bundled a number of different fonts which include the new character. The fonts are: Apple Chancery, Capitals, Charcoal, Chicago, Courier, Gadget, Geneva, Helvetica, Hoefler Text, Monaco, New York, Palatino, Sand, Skaa, Symbol, Techno, Textile and Times. With any of these fonts installed, pressing **option-shift-2** produces a euro symbol (except with Symbol, where you press **option-T**). Apple is only distributing these fonts with Mac OS 8.5.

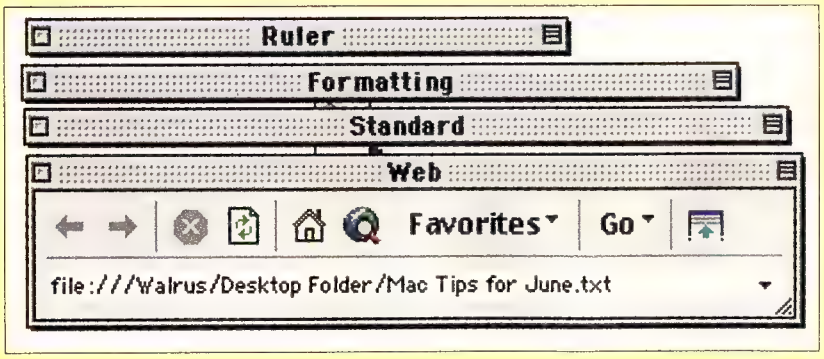
Also with Mac OS 8.5 (and 8.5.1) Apple gives you the LaserWriter 8.6 printer driver, which automatically substitutes a Euro symbol for any character you create by typing **option-shift-2** in most Mac fonts. Of course, this only works with laser printers.

Adobe has also released three free fonts — sans serif, serif and monospace — in which you can obtain a euro symbol by pressing any key. You can get these fonts from **www.adobe.com/supportservice/custsupport/LIBRARY/503a.htm**. I recommend that you use these fonts only if you have Adobe Type Manager installed on your system.

Microsoft, likewise, has TrueType fonts which include the euro symbol. Obtain them from **www.microsoft.com/typography/fontpack/default.htm**.
- *Matthew JC Powell*

RULER BEGONE!

No, it's not a pro-Republican sentiment, it's a Word 98 tip. You can win back a bit of screen real estate in Word 98 by clearing away some of the toolbar clutter. Any toolbar can be converted to a moveable palette by dragging the little grey patch at the far left. Once you've made a toolbar into a palette, simply click its *Collapse* button (upper right corner) and it becomes a much smaller and more manageable object. When you need to use one of the tools on the palette, just click the *Collapse* button again and presto! There it is.
- *Matthew JC Powell*



Toolbar control: Word 98 palettes can be expanded and collapsed with a singlemouse-click, leaving you considerably more space for typing

TRICKY STICKIES

This trick is only for the brave or reasonably experienced. When you print a note from the Stickies application, it appends a footer to the bottom of the note saying something like "Stickies (for Matthew JC. Powell)" and the date. There's no need to settle for such pedestrian labelling, though. If you're clever, you can use Stickies to create your own personalised stationery.

First, make a duplicate of your Stickies application (it's in the Apple Menu Items folder), and name this "Stickies personalised". Then, using a resource editor like Apple's free ResEdit or Mathemaesthetics' Resorcerer (**www.mathemaesthetics.com**), open the duplicate (never work on the original using a resource editor!). Double-click on *STR#* in the resources window, then find ID 134. Opening that resource gives you three text fields you can edit to create your own unique customised Stickies footers.
- *Matthew JC Powell*

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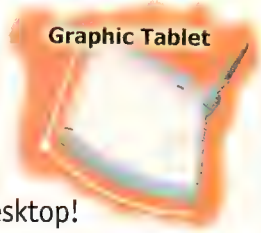

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The Upgrader

INSTALL A NEW HARD DRIVE

by Stan Miatkowski

So you think your hard disk is large enough? Well, beyond the demands of Windows, Office, and all your shareware, you face the real space gluttons. For creating or editing graphics, sound, or video files, you need more than last year's 2GB or 4GB EIDE hard drive.

Before you install a new hard drive, though, take note: pre-1994 PCs don't recognise drives larger than 528MB; pre-1996 PCs have a 2.1GB barrier, and some more recent PCs max out at 8.4GB. Although software bundled with EIDE drives evades these limitations, consider updating your PC's BIOS anyway, especially if you're concerned about Y2K compatibility. If your PC has a flash BIOS, you can upgrade by downloading software from the manufacturer's Web site. If not, you'll need to buy a BIOS upgrade chip.

New EIDE drives use the 33Mbps Ultra DMA/33 interface. The EIDE connectors on PC motherboards made more than two or three years ago, however, can't handle that speed. You can use contemporary drives, but not without sustaining a slight performance hit.

Since your new drive will be bigger and faster than your old one, install it as your C: drive and use the old one as your D: drive. To copy your data from the old drive to the new one, use the disk copying utility that accompanies the new drive, or buy one separately (simply copying the files using DOS commands won't work). A drive copying utility such as Powerquest's DriveCopy (www.powerquest.com) is ideal.

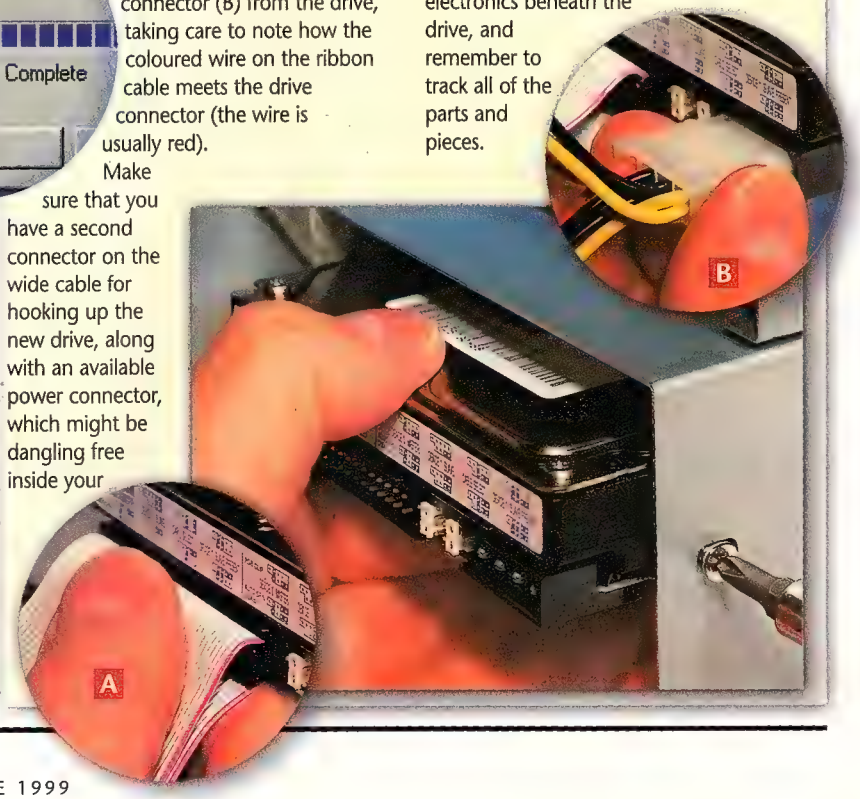
1 Optimise your existing drive. First, make sure your current hard drive is trouble-free. Run ScanDisk (select *Start-Programs-Accessories-System Tools-ScanDisk*), and then optimise the drive (*Start-Programs-Accessories-System Tools-Disk Defragmenter*). Then do a full backup of the drive's contents.

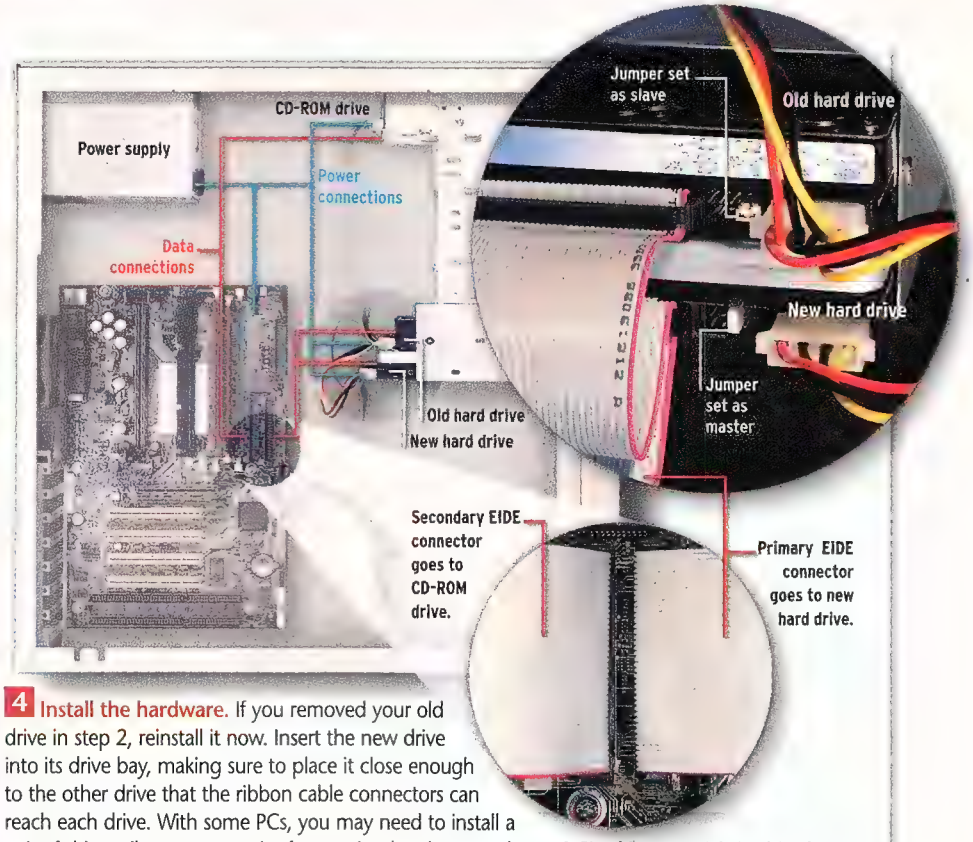
If the disk preparation software included with your new hard drive comes on a bootable floppy disk, put the disk into your A: drive and reboot your PC. If the software does not come on a bootable floppy disk, you'll have to reboot with one on hand or create one. To create a bootable floppy, put a blank floppy in the A: drive, double-click My Computer, select the drive, and then select *File-Format*. Choose *Full format*, and be sure to put a check in the box next to *Copy system files*. After you've rebooted to the A> prompt, insert your disk preparation software's floppy disk and follow the accompanying manual's instructions for launching the software.

2 Access the old drive. Turn off your PC, remove the cover, and find out how difficult it is to get to the jumpers on your existing drive. If you're lucky, you'll be able to access the jumpers without removing the old drive. If you do have to remove it, disconnect the wide ribbon cable (A) and the power connector (B) from the drive, taking care to note how the coloured wire on the ribbon cable meets the drive connector (the wire is usually red).

Make sure that you have a second connector on the wide cable for hooking up the new drive, along with an available power connector, which might be dangling free inside your computer. If not, you will need a two-drive ribbon cable plus a Y-adapter for creating two power connectors out of one.

If you have to pull out the old drive to access the jumpers, removal might be a simple matter of sliding it out, or it might entail removing up to four screws. Either way, be careful not to damage the sensitive electronics beneath the drive, and remember to track all of the parts and pieces.





3 Set the drive jumpers. When two EIDE drives connect to a single data cable, one must be set as the master and the other as the slave. Most drives — such as the Western Digital drive shown here — also have a single-drive jumper setting for you to use if your PC has only one drive.

Most hard drives have jumper settings printed on their topside labels (C). If yours does not, check the manual that came with it for information about which settings to use.

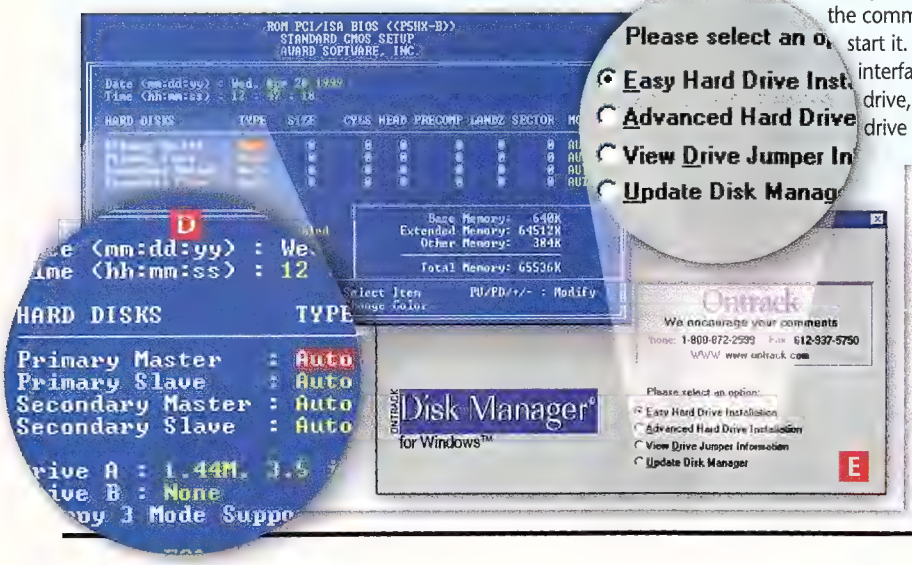
Set the jumper setting on your new drive to master, and change your old drive's setting to slave.

4 Install the hardware. If you removed your old drive in step 2, reinstall it now. Insert the new drive into its drive bay, making sure to place it close enough to the other drive that the ribbon cable connectors can reach each drive. With some PCs, you may need to install a pair of drive rails or even a pair of mounting brackets to adapt a 3.5in drive to a 5.25in drive bay. (Check the box that your PC was shipped in; new systems often come with extra rails and brackets.)

Attach the two connectors on the ribbon cable to the old and new drives. It doesn't matter which connector you join to which drive. Make sure the coloured wire on the cable goes to the pin closest to the power connector. (Some data cable connectors are keyed to prevent you from connecting them improperly.) Now check that the data cable's connection to the motherboard is secure. It's likely that your hard drives' cable is connected to the primary EIDE connector, and that the cable for other EIDE devices is connected to the secondary EIDE connector. Plug the power connectors into both drives.

5 Copy the old to the new. Start your PC. During start-up, enter your computer's setup program and make sure drives 1 and 2 are set to Auto (D) so that your system will automatically detect the two drives and set up the correct parameters. Save the setup settings, and then reboot from your bootable floppy disk.

Insert your drive copy utility's floppy disk, and enter the command (usually printed on the label) to start it. Follow the directions — à la Ontrack's interface shown here (E) — to set up the new drive, and then copy all data from your old drive to your new one.



6 Final steps. When the utility software is finished, remove the floppy disk and restart your PC. It should boot up and start Windows normally. Once you are sure everything's working, consider reformatting your old drive to clean it up before it receives any new data. To do this, double-click My Computer, right-click the letter representing your old drive — now D: — and choose *Format*.

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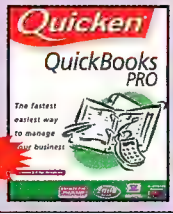

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ACER 57C 15" MiniNeck	$350
ACER 77C 17" 1280 X 1024	$520
LG 55i 15" 1024 X 768	$300
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LG 77i 17" 1280 X 1024	$590
Mitsubishi 15" Diamond View 1554	$310
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Mitsubishi 17" Diamond Plus 71	$660
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Mitsubishi 19" Diamond View 1995	$1140
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Mitsubishi 21" Diamond Pro 91TXM	$2050
NEC MultiSync V500 15"	$360
NEC MultiSync V700 17"	$700
SONY 100ES 15"	$495
SONY 200ES 17" 25 dpi	$860
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SONY 200PS 17"	$1500
SONY 400PS 19"	$1670
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VIEWMASTER M1738NF .25DP	$580
VIEWMASTER M19XL .26	$950

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NEC 1510V TN 15" TFT	$2490
SONY LCD 15" TFT	$2950
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VIEWSONIC VP150 15" TFT	$2550

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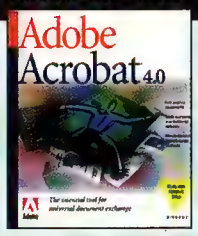

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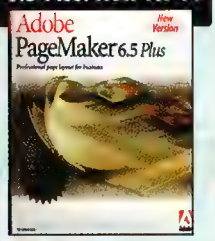

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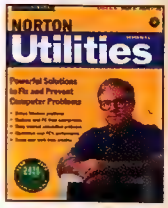

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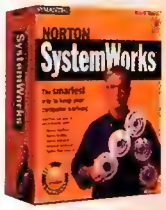

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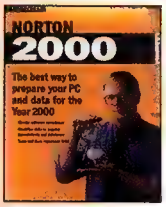

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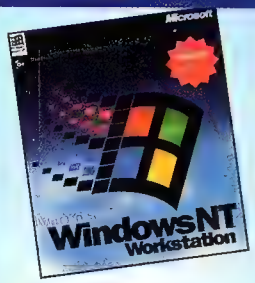

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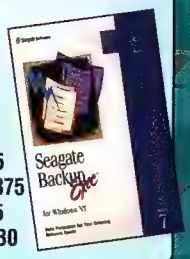

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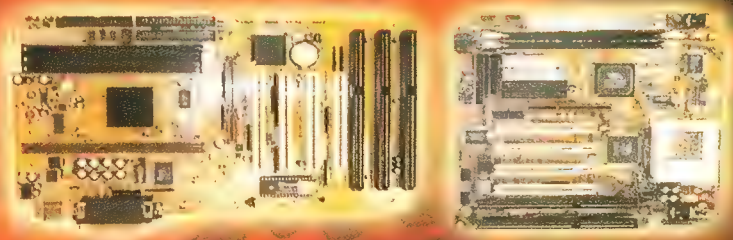

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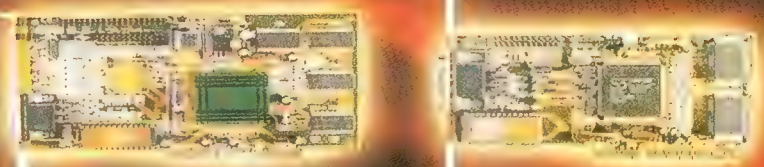

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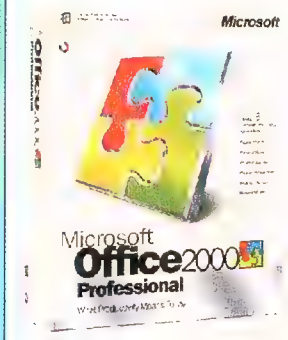

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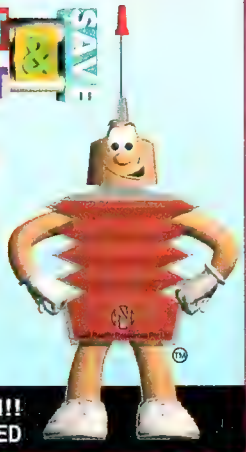

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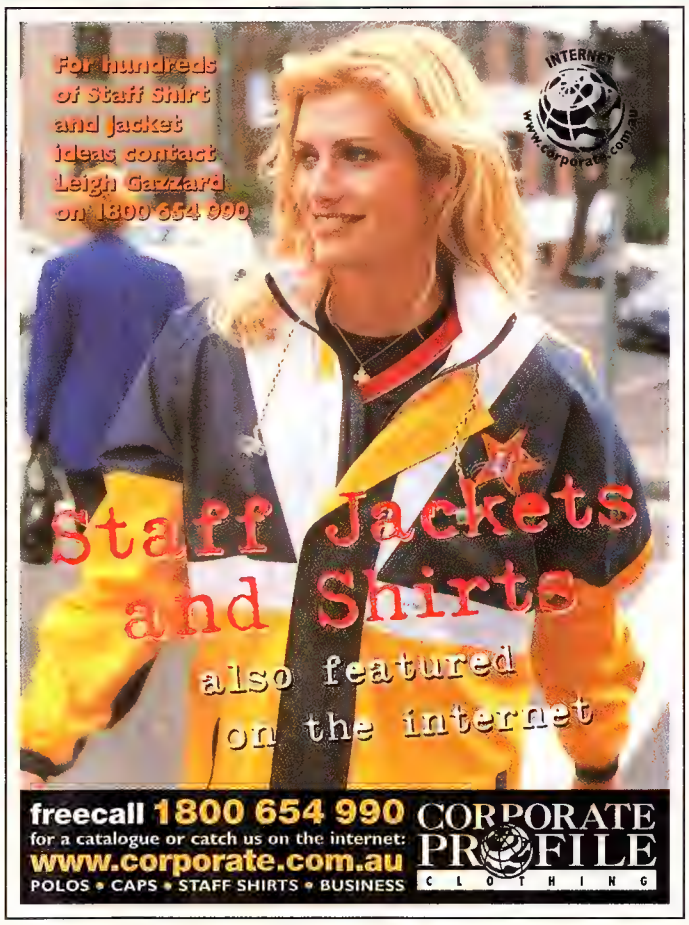

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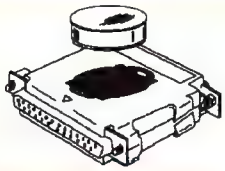

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Epson Stylus Color 400 / 600	K17BK	12	K20CLR	12 *
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Epson Stylus Color 3000 / 5000	K21BK	3	K34CLR	3
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Lexmark/IBM 4076/1020/2030/2050/2070/1000	K18BK	6	K13CLR	12
Lexmark/IBM 2030 / 2050 waterproof	K24BK	6	K13CLR	12
Lexmark/IBM 2030 / 2050 photo			K29CLR	12
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Olivetti JP150/170/192/250/350/360/450/3100	K20BK	8	K19CLR	12

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Canon BJ-300/330	BJI-642	2	26BB
Canon BJC-600 Series	BJC-201	6	25BB
Canon/Apple BJC-4000/5500	BCI-21B	15	07BB
Canon/Apple BJC-4000/5500	BC-20	3	04BB
Canon BJC-7000 & Optimiser	BC-60	2	52BB
HP Deskjet 400/500 Series	51626A/33M	2/3	16BB
HP Deskjet 600 Series	51629A	2	14BB
HP Deskjet 800 Series/1600c	51645A	2	12BB
Epson Stylus 400/800/1000 (1st rel)	S020025	6	23BB
Epson Stylus Colour/Pro/XL	S020034/62	4/2	22BB
Epson Stylus Colour 820/11/11s	S020047	4	20BB
Epson Colour 400/500/600	S020093	6	18BB
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HP Deskjet 400/500 Series	51625A	3x5	15BB
HP Deskjet 600 Series	51649A	3x5	13BB
HP Deskjet 800 Series/1600c	51641A	3x3	11BB
Epson Stylus 200/500	S020097	3x5	19BB
Epson Stylus Colour/Pro/XL	S020036/66	3x4/2	21BB
Epson Stylus 820/11/11s	S020049	3x5	19BB
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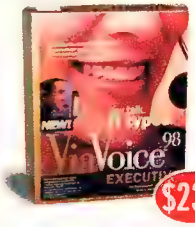

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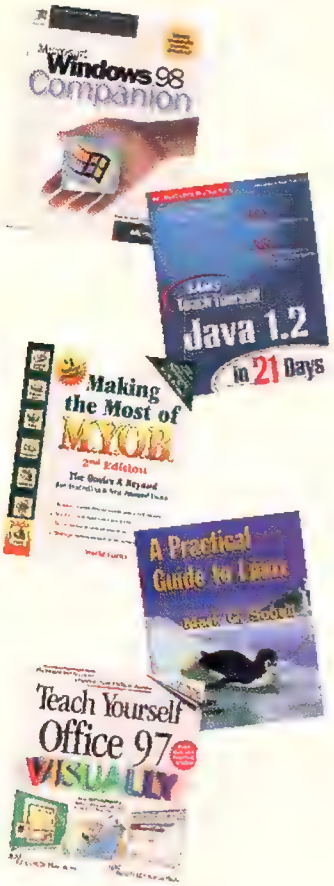

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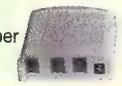

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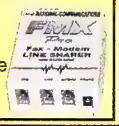

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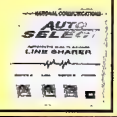

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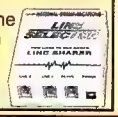

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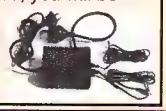

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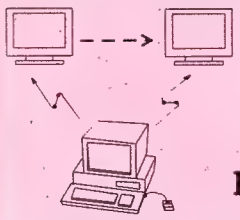

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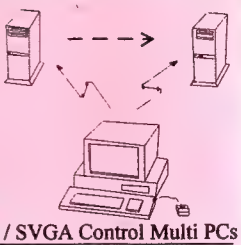

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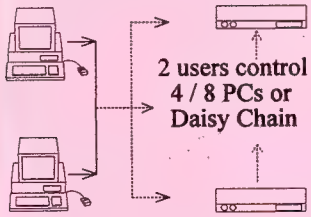

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TWENTY-TWO POINTS, PLUS TRIPLE WORD SCORE

→ Remember the Melissa virus? It was in all the papers, then vanished suddenly a month or two back. At the height of the scare, we received a notification about it from antivirus company Trend Micro, warning of the dangers and identifying exactly how to spot an infection. The first tell-tale sign, according to Trend Micro, is a string of characters in the Windows 95/98 registry which says "kwyjibo". The next sign is an elaborately-triggered macro which, if you've got Microsoft Word open, puts the following quotation on the screen:

"twenty-two points, plus triple-word score, plus fifty points for using all my letters. Game's over. I'm outta here".

Pop-culture sponges that we are, Backbytes immediately recognised this as a reference to a TV show. Trend Micro has provided two wristwatches, which we'll send out to the first people who write in telling us (correctly) what a "kwyjibo" is. You don't have to be word-for-word, near enough will do.

This is a really big clue

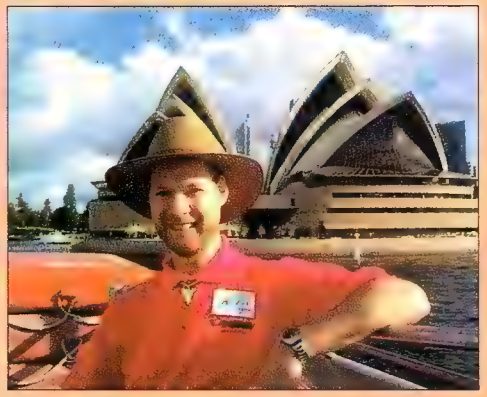
→ Reader Ken Travers from North Ryde, NSW, sent in a copy of a letter he received recently from Microsoft, promoting its certification programs and exams. The letter contains numerous references to becoming a "Microsoft Certified Systems Engineer", which it abbreviates as "MSCE". He wonders whether Microsoft's spell-checkers should have been able to detect the out-of sequence initials, but raises a more ominous point: do those same spellcheckers decree that whenever the letters M and S appear in proximity, they must be conjoined? These are the kinds of questions best explored by Microsoft Certified Dyslexics (MDCs).

→ You always run a risk when you go in for satire, as Backbytes has discovered on more than one occasion. We've never done anything quite like this, however. Impression, a Web-based magazine showcasing the talents of up and coming writers, put itself up for auction on www.ebay.com, as a joke. The point was to make fun of the inflated values of Internet startups, and poke fun at people who buy incredibly expensive things online, sight unseen. So Impression put itself up for auction, with a minimum bid of $US3 million. We can hear you guffawing even now. The joke is on Impression, though: at this writing, two bidders had met the minimum reserve, and the owners must either withdraw the item from sale (thus looking like twits) or part with their life's work in exchange for becoming millionaires. Decisions, decisions.

→ Ever heard of "percussive therapy"? It's the time-honoured technique of whacking a TV set, radio or other appliance to improve performance. Not recommended for microwave ovens or computers. Tell that to Dell though. We read recently about someone phoning Dell tech support, because her brand new computer didn't work properly. After patiently determining that the fault lay in the hard drive refusing to spin up, the tech support person advised the customer to "raise the front of the PC about six inches, then drop it" and see if that helped. Ouch.

JUST A WALK IN THE PARK

If you think it's a long walk up to the shop, spare a thought for Bert Simon, a 28-year-old German who describes himself as "the world's second best long distance walker". On April 15, he set out from the Sydney Opera House on a quest to walk over 15,000 kilometres through all of Australia's World Heritage wilderness areas. This is but the first stage of a global walk that will see him walk through all of the areas identified by UNESCO as World Heritage areas. The whole walk is for the benefit of kids with asthma and you can monitor Simon's progress on the Web at www.bertsimon.com. The Walk is also supported by AOL and Toshiba, which are providing the technology for live coverage. According to the broken English of the press release, Simon expects the task to occupy the next 32 years. Sounds like riveting viewing.



Y2K has been enough of a scare story for so long, it was only a matter of time before someone used it for evil ends. We received the following e-mail (right) recently:

We knew immediately from the odd capitalisation that these guys meant business, so we went immediately to the Web site. What could be worse, we thought, than a non-Y2K-compliant T-shirt? Imagine the havoc! One thing we did notice, though, is that one of the T-shirts designs features a group of Millibugs looking frantic under a cloud with the binary number "010100" printed on it. Could this mean that the T-shirts will, in fact, think that next year is the year 20, and behave accordingly?

DeaR HuMan:

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→ Recently, we were scouring the Web, looking for the correct spelling of Llanfairpwllgwyngyllgogerychwyrndrobwyll-llantisiliogogogoch, as one does, and happened across one of the more hilarious Web sites we've found. At **www.britannia.com/celtic/wales/facts**, you can find tidbits ranging from the obvious (the Prince of Wales is not Welsh) to the absurd (the Holy Grail is to be found in Wales). All of the facts are meticulously researched, of course, and it makes a great read. I'll bet you didn't know that St Patrick was a Welshman.

→ Speaking of Y2K havoc, we received some friendly advice recently to save having to discard our VCRs next year. If you set your VCR to tape something on, say, Thursday the 17th of February next year, you'll be blissfully unaware that your non-compliant VCR thinks it's 17/02/1900, a Saturday. The internal conflict could be too much for the poor dear, and you'll miss E.R. The tip, though, is to tell your VCR it's 1972 — that way the days are all the same. A solution? We think not: what happens when people end up taping M*A*S*H and All In The Family? pcw

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